City and County of San Francisco
Department of City Planning

Supplemental
Environmental Impact Report

1145 Market Street Office Building

Draft
81.549E

Publication Date: August 9, 1985
Public Comment Period: August 9 to September 12, 1985
Public Hearing Date: September 12, 1985

Written Comments should be sent to the
Environmental Review Officer
McAllister Street, San Francisco, CA 94102

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

I. INTRODUCTION

PURPOSE OF THIS SUPPLEMENTAL EIR

A. HISTORICAL OVERVIEW

This supplement to the environmental impact report (EIR) for the 1145 Market Street Office Building (81.549E) has been prepared to provide additional information about the cumulative effects of the proposed project when considered in conjunction with other development in the downtown.

1. SFRG v. CCSF

In March 1982, San Franciscans for Reasonable Growth (SFRG) filed suit under the California Environmental Quality Act (CEQA), challenging the San Francisco City Planning Commission's (CPC's) certification of EIRs for, and approvals of, four other downtown office buildings.[1] The trial court upheld the CPC's actions in July 1982. SFRG appealed the decision to the California Court of Appeal, First Appellate District. (San Franciscans for Reasonable Growth v. City and County of San Francisco (1984) 151 Cal. App. 3d61 (SFRG v. CCSF). The appellate court found the EIRs to be inadequate and incomplete because the CPC "omit(ted) from its calculations and analyses of cumulative impacts other closely related projects that were (con)currently under environmental review" and therefore "failed to interpret the requirements of a cumulative impact analysis so as to afford the fullest possible protection of the environment." (151 Cal. App. 3rd at p. 81).

[1]The four projects listed in the lawsuit and subsequent judgments are the buildings at 101 Mission (EE 79.236, certified August 27, 1981), 160 Spear (EE 80.349, certified February 11, 1982), 1 Sansome (EE 78.334, certified August 6, 1981), and Montgomery/Washington (81.104E certified January 28, 1982).

The court remanded the four cases to the trial court with direction that it require the Planning Commission to redraft the EIRs for all four projects in compliance with the requirements of CEQA as expressed within the appellate court's opinion. On December 6, 1984, Supplemental EIRs for the four projects, containing a modified cumulative impact analysis methodology, were certified.

2. 1145 Market

On October 20, 1983 the San Francisco City Planning Commission (CPC) certified the Final EIR for the project Motion 9836M) and approved the project (Motion 9837M). On October 11, 1984, the Bureau of Building Inspection approved the site permit for the project. On October 22, 1984, prior to filing or posting of a Notice of Determination by the Department of City Planning, San Franciscans for Reasonable Growth (SFRG) filed an appeal with the Board of Permit Appeals challenging the issuance of the site permit. The Board of Permit Appeals has continued a hearing on the appeal pending completion of a Supplemental Environmental Impact Report.

3. Downtown Plan EIR

On October 18, 1984, the CPC certified the Final EIR on the Downtown Plan. The Downtown Plan EIR's cumulative impact analysis methodology differs from the analysis in previous EIRs for downtown office projects. Rather than projecting cumulative impacts based on a list of proposed, approved and under construction office and retail projects, the Downtown Plan EIR forecasts total downtown employment through the year 2000. Cumulative impacts were based on the demand by downtown employers and employees for commercial space, transportation and other services, and housing.

B. SCOPE OF SUPPLEMENTAL EIR

The analysis of the cumulative effects of downtown office development in the Final EIR on the project was based on a list of projects which had been approved or were under construction totaling 17.3 million square feet of net new office space.

This report modifies and supplements the cumulative impact analysis in the EIR published May 20, 1983 and certified October 20, 1983 (hereinafter called FEIR). It contains analyses of the cumulative effects of the proposed project on transportation, air quality, energy and housing replacing appropriate sections or subsections of the FEIR.

One analysis of cumulative effects of downtown projects in this Supplemental EIR is based on a list of projects under formal review, approved, and under construction as of March 22, 1985. These projects contain a total of approximately 20.4 million square feet of net new downtown office space. The process used to develop the cumulative list and the list of projects appears in Appendix B, pages A-3 through A-13. This is the most recent list of cumulative downtown office development projects prepared by the Department of City Planning.

In addition to updating the FEIR to reflect a greater number of current and upcoming downtown projects, this Supplemental EIR also presents a revised cumulative analysis of the transportation, air quality, energy and housing impacts of the project using the cumulative analysis prepared in the Downtown Plan EIR. Subjects not covered in this Supplemental EIR are specific to this project and are not affected by changes in cumulative development projections for downtown San Francisco or cumulative analysis methodology.

A complete discussion to the relationship between the two methods is contained in Chapter V, Section A: "Introduction of Cumulative Impact Analysis." Each analysis has been performed independently and can stand alone as an estimate of cumulative impacts. Where the results vary, an explanation of the reason for the variation is provided.

II. SUMMARY

A. PROJECT DESCRIPTION

The 1145 Market Street Office Building project would consist of a 12-story office building located on Assessor's Block 3702, Lots 44 and 44a, on Market Street midblock between Seventh and Eighth Streets.

The building, as currently designed, would contain approximately 145,200 gross square feet (gsf) of floor area with an FAR of 10:1 consisting of about 137,200 gsf of office space and 8,000 gsf of retail space. The building would be 176 feet high, 13.5 feet lower than the project described in the FEIR.

No on-site parking would be provided. Access to a single off-street truck loading dock would be from Stevenson Street. Completion of construction is expected in late 1987. At present, no space in the project has been leased or committed to tenants.

B. ENVIRONMENTAL IMPACTS

Introduction to Cumulative Impact Analysis

The cumulative impact analyses in this EIR use two different approaches for estimating future transportation, air quality, energy and housing impacts:

- The Downtown Plan EIR forecasts to the year 2000, and
- The March 22, 1985 list of projects in the greater downtown area.

There are several differences between the two approaches. The basic difference is that the Downtown Plan EIR approach accounts for future changes to a range of land uses as well as changes over time in worker characteristics and behavior, while the list-based approach uses known projects of certain types to represent future activity and assumes

unchanging characteristics and behavior. As a result of this basic difference in approach, the Downtown Plan EIR forecasts incorporate changes over time in employment densities, residence patterns, and travel patterns, whereas the list-based approach applies current conditions to all future activity. These two approaches are alternative means of assessing the future cumulative context for downtown development.

According to the Downtown Plan EIR forecasts, there would be a net addition of 21.7 million sq. ft. of space in all land uses in the C-3 District between 1984 and 2000. The project would represent 0.7% of this amount.

The March 22, 1985 list of cumulative office development in the downtown area (the C-3 District and adjacent areas) includes a net addition of 21.8 million sq. ft. of office and retail space over the base-line office and retail space in existence at the beginning of 1984. The project would represent about 0.7% of the space in the projects on the list. (See Appendix B, pages A-3 to A-13, for a complete listing of projects on the Cumulative List and an explanation of the list.)

For a more detailed discussion, and a chart comparing the two approaches, see Section V.A., Introduction to Cumulative Impact Analysis, pages 36-40.

Transportation

Cumulative transportation impacts have been calculated by a cumulative-development list-based method used in most past San Francisco EIRs and by the new predicted employment-based method first presented in the Downtown Plan EIR (certified October 18, 1984). The employment-based model takes into account area-wide housing availability, planned transit system improvements, the effect of congestion on transportation mode selection decisions, and other factors which are expected to change with time, thus giving a more realistic and sophisticated prediction than the list-based method, which assumes no changes in modal split or residence patterns of San Francisco workers between

now and the year 2000. The two methods are not directly comparable because the employment-based method analyzes travel demand generated by all uses in the C-3 and non-C-3 districts, while the cumulative-development list covers travel from only office and retail in the greater Downtown area.

Net new trip generation from the project would be about 3,689 person-trip-ends (pte) per day. About 515 new outbound trips would occur during the p.m. peak period, 310 of these during the peak hour. On the basis of modal splits predicted for the year 2000 by the Downtown Plan EIR, the main peak-period trip contributions would be: to Muni 111 trips, BART 87 trips, walk-only 122 trips and auto-only 126 trips.

The transit demand from the project would represent about 0.1% of the total transit demand under the list-based approach at the time of the buildout and absorption of all projects on the list (mid-1990s) and under the Downtown Plan EIR methodology (in the year 2000). Planned capacity increases of transit carriers, in conjunction with transit ridership increases from cumulative development under the Downtown Plan to the year 2000, would be expected to result in the following changes in transit Levels of Service during the peak period: Muni Northeast Corridor D to C, BART Transbay F to E, AC Transit C to D, Golden Gate Ferry B to A, Tiburon Ferry B to C, and CalTrain B to C. The list-based analysis predicts the following changes in transit Levels of Service during the peak period at the time of buildout and absorption of the list projects: Muni Northeast Corridor D to C, Muni Northwest Corridor D to E, BART Transbay F to D, AC Transit C to D, Golden Gate Bus C to B, Golden Gate Ferry B to A, Tiburon Ferry B to C, and SamTrans D to C.

The proposed project would generate about 130 new pedestrian trips on the surrounding sidewalks during the noon peak hour and about 100 new pedestrian trips to those sidewalks during the p.m. peak hour.

Sidewalk operations on Market Street, currently in unimpeded or better conditions during both the noon peak hour and open conditions during the p.m. peak hour, would remain in

the unimpeded range during the noon peak hour and degrade to the unimpeded range during the p.m. peak hour, (under the list-based approach (at the time of the buildout and absorption of all projects on the list) and under the Downtown Plan EIR methodology (in the year 2000).

Under both approaches, about 0.1% of the Bay Bridge and Golden Gate Bridge peak-period demand would be due to the project. The project would contribute less than 0.05% of peak-period demand under the list-based approach and about 0.1% under the Downtown Plan EIR methodology on U.S. 101 (south of Harney Way) and I-280 (between Alemany Blvd. and San Jose Ave.).

Under either approach, cumulative development would be expected to have no impact on the peak-hour intersection Levels of Service at Sixth and Brannan Streets (currently "F"), Fifth and Bryant (currently "E/F") and Eighth and Bryant (currently "E/F").

The C-3 District would generate demand for approximately 58,000 equivalent daily parking spaces in the year 2000 under the Downtown Plan, an increase of 28% from 1984. Short-term demand would continue to represent about 25% of the total demand. The project parking demand would represent less than 0.1% of the total demand from the C-3 District. The parking supply has been assumed to be about 51,000 spaces. There would be a parking deficit of about 6,000 spaces in the year 2000 if vehicular demand occurs as projected.

Air Quality

Traffic generated by cumulative development would increase the total regional burden of emissions in the Bay Area. This increase would not produce increases in ozone concentrations in the Bay Area, although it could produce small increases in ozone at locations further downwind. The project would produce about 0.7% of the air pollution generated by cumulative list projects and about 2% to the total air pollution generated by development as projected in the Downtown Plan EIR in 1990.

Cumulative development-generated traffic could also increase carbon monoxide (CO) emissions on local streets. However, because of ongoing state and federal emissions control regulations, these increases would not cause CO concentrations in future years to be higher than they are currently. Rather, CO concentrations would generally continue to decrease as older, more polluting vehicles are replaced by newer cars. CO concentrations at one of the eleven intersections examined in the Downtown Plan EIR would continue to exceed state and federal standards in 1990 and 2000.

Energy

Yearly estimated electrical consumption for the projected 21.8 million square feet of additional downtown space at the time of buildout and absorption of the projects on the March 22, 1985 cumulative list (mid-1990s) would be approximately 370 million kWh of energy per year. PG&E projects an increase in annual energy demand over the next decade of about 200 million kWh. The lower PG&E estimate is largely due to a lower development estimate.

The Downtown Plan EIR predicts an increase of about 210 million kWh of electrical consumption per year between 1984 and 1990, and of about 330-350 million kWh of consumption per year between 1990-2000. The PG&E projections and Downtown Plan EIR do not predict energy consumption for exactly the same time period and thus are not comparable.

Residence Patterns and Housing

According to the Downtown Plan EIR forecast, 189,000 C-3 District workers would live in San Francisco in 2000. About 243 of the 537 people working in this building would live in San Francisco, about 0.1% of the total number of C-3 District workers who would be San Francisco residents.

According to the list-based approach, about 237,000 workers in the greater downtown would live in San Francisco after buildout and absorption of the projects on the list. The

1145 Market Street project would account for 262 employees out of 520 project employees living in San Francisco, 0.1% of the total.

Employment growth accommodated by the project and the many other projects considered in either the Downtown Plan EIR forecast or the list-based analysis has implications for the San Francisco housing market. These can be summarized as follows:

- There would be more people with preferences and increased resources to pay for San Francisco housing, adding to an already strong demand.
- The housing supply would be expanded in San Francisco. However, the private market is expected to continue to have difficulty producing affordable housing, for many housing market reasons.
- There would be increased competition for the available housing units. As a result, there would be higher prices/rents for San Francisco housing with continued employment growth than without it.
- Generally, households with fewer financial resources to pay for housing would make the most sacrifices in adapting to more competitive market conditions. San Francisco currently has and will continue to attract a large number of persons who would be faced with greater difficulty in securing housing.

Cumulative employment growth in downtown San Francisco would have less impact in the context of the rest of the region's housing market. Considering trends in labor force participation, workers per household, housing production and employment growth throughout the region, future workers in downtown San Francisco would not require much larger shares of the region's housing stock in the future than they do now. In the future, the relationship between downtown workers and other workers competing for housing in the region would be relatively similar to current conditions. As part of total regional employment growth to the year 2000, increases in San Francisco employment can be viewed as contributing to regional housing demand and to a competitive regional housing market with relatively high housing prices and rents.

C. MITIGATION MEASURES

Mitigation measures described in the FEIR as "Measures Proposed as Part of the Project" were part of the project plans and were incorporated as conditions of project approval as were measures imposed in the Motion approving the project. The expanded cumulative impact analyses contained in this Supplemental EIR do not disclose new impacts not covered by mitigation measures previously imposed on the project and uniformly imposed on later projects approved by the City Planning Commission. The mitigation measures are generally imposed on a per-square-foot basis because an individual office building project contributes to the cumulative impacts in proportion to its contribution to additional employment in downtown, which is related to the space provided in the new building. No individual building contributes disproportionately--geometrically--to the overall cumulative impacts. Therefore, insofar as mitigation measures have been imposed on a per-square-foot basis where possible (e.g., Transit Development Impact Fee, Office-Housing Production Program), the project will contribute its appropriate share to the overall measures which combine to reduce cumulative effects of increases in office space downtown. Where mitigation measures are not appropriately imposed by square footage, such as provision of a transportation broker to encourage transportation systems management, all projects similarly situated have had such a measure uniformly required, as has the project covered by this Supplemental EIR. The specific mitigation measures imposed on the project, measures which could be implemented by public agencies and mesures not included in the project, are discussed in Chapter VI, page 94.

1. Transportation

A few conditions that mitigate the project's contribution to cumulative transportation impacts were included in the project approval action but not discussed in the FEIR. These measures are reproduced in the text of this Supplement to the FEIR.

If the City were to adopt and implement the transportation improvements described in the Downtown Plan, or were to act to implement transportation mitigation measures described in Section V.E., Mitigation, pp. V.E.4-28 of the Downtown Plan EIR, cumulative

transportation impacts of downtown growth would be reduced. These measures are systemwide measures that must be implemented by public agencies and cannot be implemented by individual project sponsors.

The following measures are not included as part of the project:

Redesigning the project to include less office space would contribute to mitigation of cumulative transportation impacts.

Contribution of fees over and above the present $5.00 per square foot could mitigate some of the project's contribution to cumulative transportation effects. However, the City Planning Commission has not been delegated the authority to require such a mitigation measure.

2. Air Quality

Measures that would reduce transportation impacts by reducing the number of vehicle miles traveled would reduce cumulative air quality effects.

3. Housing

A requirement to provide housing in San Francisco was included in project approval conditions, thus reducing or eliminating project-specific contributions to cumulative housing impacts in San Francisco. A total of 93 credits was required. By December 1984, the project sponsor had complied with a portion of the required mitigation measures by having constructed or started construction on 32 new housing units counted as 61 housing credits.

4. Energy

The project is in compliance with State Title 24 Energy Standards. In addition, project approval included a requirement to review energy consumption one year after building occupancy and implement reasonable energy conservation measures recommended as a result of that review.

III. PROJECT DESCRIPTION

The 1145 Market Street Office Building project consists of a 12-story office building located on Assessor's Block 3702, Lots 44 and 44a, on the south side of Market Street between Seventh and Eighth Streets, on the edge of the South of Market area of San Francisco (see Figure 1, page 13).

The building, as currently designed, would contain approximately 145,200 gross square feet (gsf) of floor area with an FAR of 10:1, consisting of approximately 137,200 gsf of office space on Floors 2 through 12 and about 8,000 gsf of ground floor retail. Pedestrian access to the building would be from both Market and Stevenson Streets. Access to the single truck loading dock would be from Stevenson Street. The project would contain no off-street parking.

The project would include a series of setbacks along the Market Street facade beginning on the Sixth Floor (about 80 feet above Market Street) and a 5-foot setback above 40 feet along the east lot line. The building facade would be of light grey concrete with clear glass windows and would include a copper-roofed mechanical penthouse.

Construction of the project has begun and the site has been cleared. Completion of construction is expected in late 1987.

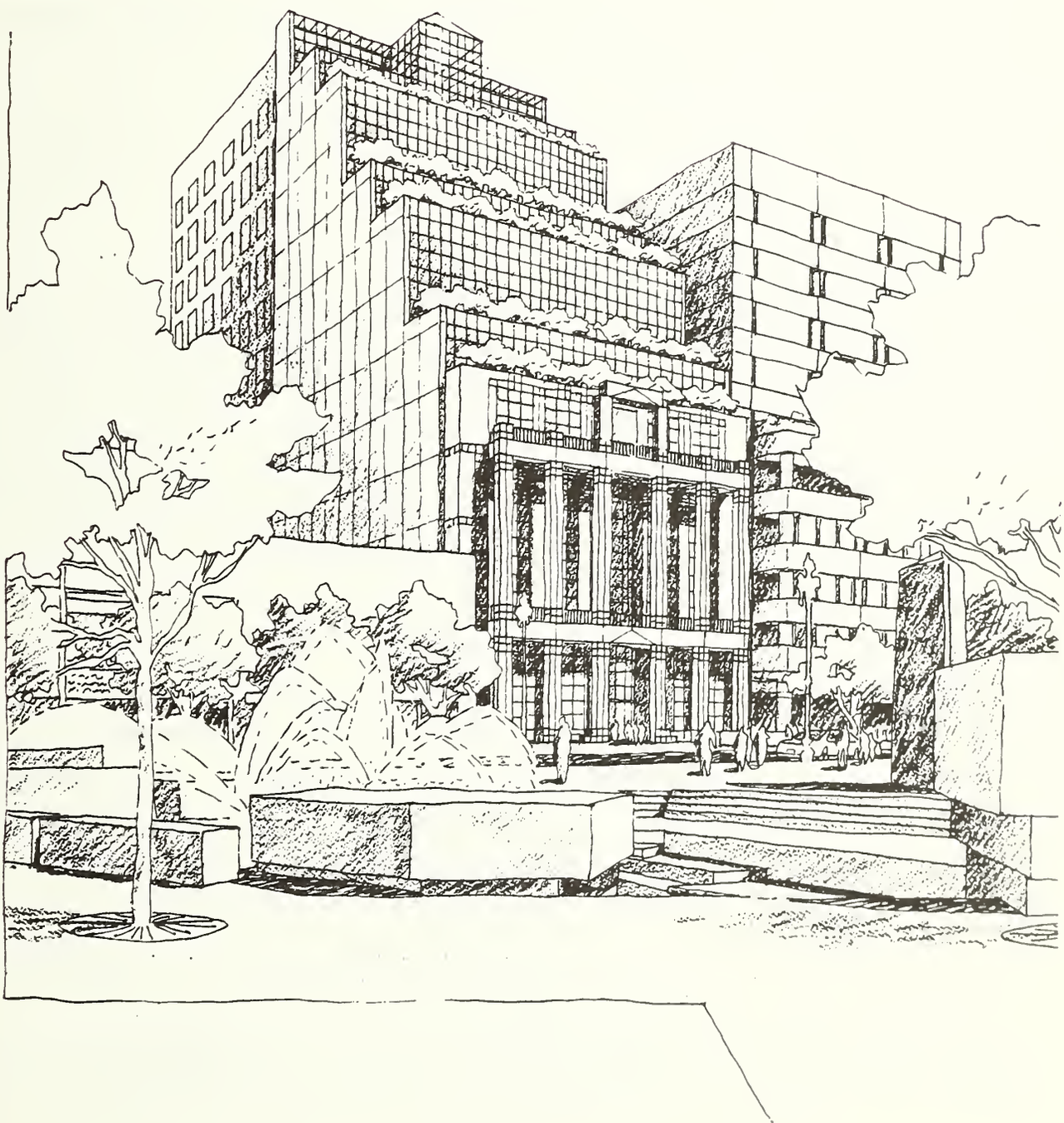
The project as finally approved and currently designed involves the following principal differences from the proposed project described in the FEIR:

- the building's height is 176 feet (12 stories) compared to 189 feet, 6 inches for the proposed project described in the FEIR;

ARCHITECTURAL RENDERING

FIGURE 1

SOURCE: BACKEN, ARRIGONI & ROSS, ARCHITECTS



- there is a 5-foot setback above 40 feet along the eastern lot line compared to no setback on the east side of the proposed project;
- there are five varied setbacks from the Market Street lot line, at floors 6, 7, 9, 10 and 12 compared to the six uniform setbacks in the proposed project; and
- there is a copper-roofed mechanical penthouse compared to the glass skylight rooftop structure on the proposed project.

IV. ENVIRONMENTAL SETTING

A. LAND USE

Downtown San Francisco and the Bay Area Region

In 1984, it was estimated that the C-3 District contained about 103.5 million gsf of building space over all land uses. About 60% of this space was office space. The next largest share was hotel space at 10 percent of the total, followed by retail at eight percent.[1]

The Department of City Planning has compiled data on major office building construction citywide since 1960 (see Table B-3 in Appendix B). According to the City's data, in 1983, there were 64.3 million gsf of space in major office buildings throughout the City. Most of this office space is in the C-3 District. Between 1960 and 1979, office space was built at an average rate of 1.4 million gsf per year. Recently, office construction activity has risen to higher levels. The data compiled by the Department of City Planning show 12.2 million gsf built from 1980 through 1983 citywide, for an average rate of about 3.0 million gsf per year.

Downtown San Francisco is likely to continue to be the major office center in the Bay Area region. Forecasts of development between 1984 and 2000 prepared for the Downtown Plan EIR estimate that an additional 21.7 million gsf of space in all uses would be built and occupied in the C-3 District. Most of this additional space (16.8 million gsf, almost 80 percent of the total) would be office space. According to the Downtown Plan EIR forecasts, the rate of new office construction in the C-3 District would average about 1.1 million gsf per year between 1984 and 2000.[2]

Those forecasts of development under the Downtown Plan fall near the lower end of the range identified for the five Alternatives to the proposed Plan analyzed in the Downtown

Plan EIR. The total addition of space built and absorbed between 1984 and 2000 would range from 21.3 million gsf (Alternative 5) to 29.9 million gsf (Alternative 2). In all Alternatives, office space would represent the largest component of development. The smallest increase in office space would occur under Alternative 4 (15.4 million gsf), while the largest increase would occur under Alternative 1 (24.4 million gsf).[3] Under Alternative 1, the rate of new office construction forecast between 1984 and 2000 would continue at the relatively high level of 1.7 million gsf per year.[4]

The Department of City Planning maintained a list of projects in greater downtown San Francisco for use in EIR cumulative analyses. (See Table B-2 and Appendix B text for a more detailed description of the contents of the list.) The list incorporated all office and major retail projects under formal review, approved but not yet under construction, and under construction in the greater downtown area. As of the March 22, 1985 list, projects which would add about 6.5 million gsf of office space were under formal review, about 4.8 million gsf were approved, and about 9.1 million gsf were under construction. In total, the list includes a net addition to the existing supply of office and retail space of about 21.8 million gsf -- 20.4 million gsf of office space and 1.4 million gsf of retail space in the greater downtown area . About 2.6 million gsf of existing office and retail space would be demolished for construction of these projects. This area covers the C-3 District and adjacent areas, such as the Northeast Waterfront, Civic Center, and the area south of Folsom Street. About 14.6 million gsf of the 21.8 million gsf total are in projects located in the C-3 District.

Land use changes in downtown San Francisco affect the land use economy throughout the Bay Area region to varying degrees depending on the type of land use. In terms of development in downtown San Francisco, office development has the greatest impact on regional land use decisions since the office space market is more regional in nature than markets for other types of space. Other land uses throughout the region are less affected by development in downtown San Francisco than the office market.

Space in office buildings in the other eight counties of the nine-county Bay Area was estimated to be 27 million sq. ft. as of the end of 1979.[5] While San Francisco has the majority of existing office space in the region, the rapid growth of office functions in

other Bay Area counties has resulted in less than half of the new space in office buildings in the region being built in San Francisco. Forty-five percent of the dollar value of building permits issued for office construction in the region between 1972 and 1979 was for San Francisco development.[6] Because the average cost per square foot for office construction is higher in San Francisco due to the predominance of high-rise office construction, it can be inferred that the City's share, in terms of square footage of regional office space construction, is less than 45%.

San Francisco's role as a headquarters city and major business center for the West Coast stimulates office growth elsewhere in the Bay Area. As San Francisco firms expand, they look to suburban office markets to accommodate new functions and/or to attract a certain segment of the labor force. Moreover, as the costs of space in San Francisco have increased, due to high levels of demand, cost-sensitive firms have chosen locations in other cities or in expanding suburban locations.

The FEIR (pages 22, 22a, and A-94 - A-96) recognized that in the greater downtown area 113 projects containing about 17.3 million gross square feet of net new office space and about 590,000 gsf of net new retail space were under construction, approved, or under review at the time of certification. All were expected to be completed prior to completion of 1145 Market. Of the 113 projects evaluated in the FEIR, 26 have been built, for a total of about 4.8 million gsf of net new office space and 139,700 gsf of net new retail space. Thirty-seven of these projects have not yet been completed (but it continues to be likely that they will be so prior to completion of 1145 Market). However, more development has occurred than was anticipated in the FEIR as a result of subsequently approved projects. The present list of office/retail projects used for cumulative analysis totals about 20.4 million gsf of net new office space and about 1.4 million gsf of net new retail space (see Appendix B, pages A-3 through A-13 for an explanation and copy of the list).

Site Vicinity

The 1145 Market Street project is located in the C-3-G (Downtown General Commercial) Zoning District (see FEIR, Figure 10, page 20) where the predominant land uses are retail

sales and services such as restaurants, shops, and markets, housing including some of the lowest cost units in the City, and office buildings. The zoning district would not change under the Downtown Plan Interim Controls. The project site is located on the northern edge of the South of Market Area and is adjacent to the Civic Center and the North of Market Area (bounded by Market Street, Van Ness Avenue, Post Street and Powell Street).

Since certification of the FEIR, changes in land uses on sites both in the vicinity of the project site and in the greater downtown area have resulted from construction of projects, some of which were approved or under construction at the time of the FEIR and other that have been approved and built subsequently. In addition, other projects have been proposed which have not yet caused land use changes but may be expected to do so in the future.

The FEIR (pages 18 and 19) described land use and development on the project site and surrounding the project site. Since certification of the FEIR in the area surrounding the project (Assessor's Blocks 347, 348, 349, 351, 353, 354, 355, 3701, 3702, 3703, 3726, 3727, 3728), there have been some land use changes. Two projects have been completed, one is currently under construction, and three projects are currently under formal review by the Department of City Planning. Three of these projects (1170 Market, 1155 Market, and 10 U.N. Plaza), including 270,750 gsf of net new office and 8,800 gsf of net new retail space, were included in the FEIR's cumulative impact analysis. If all of these projects are completed as described in their current applications, an additional 1,362,630 gsf of office space and a net loss of 11,200 gsf of retail space would be in the project vicinity.

The 1155 Market Street project is located on the project block, adjacent to the southwest, to the project site. This project involved construction of 138,700 gsf of net new office space and 8,800 gsf of net new retail space. The 10 U.N. Plaza project, located on Assessor's Block 351, across the street from the proposed project, involved the construction of 92,050 gsf of net new office space. Both of these projects were completed and occupied prior to 1984.

The 1170 Market Street project, directly across Market Street from the proposed project in Assessor's Block 351, is currently under construction. Upon completion, this project will provide 40,000 gsf of net new office space.

The Trinity Plaza (1169 Market Street) project is located on the project block at the corner of Eighth and Market Streets and is currently under formal review by the Department of City Planning. This project would construct 805,000 gsf of net new office space and 40,000 gsf of net new retail space. In the next block, the conversion of 1035-1045 Market is also under formal review. This project would convert 60,000 gross square feet of retail space to 60,000 gsf of net new office space. In addition, the State Office Building on Assessor's Block 347 would contribute 226,880 gsf of net new office space. Since these projects are under formal review they are still subject to change prior to approval of their site permits.

In general, projects on the project block and on blocks near the project site continued the intensification of office development described in the FEIR.

---

[1] Downtown Plan EIR, page IV.B.17. The estimates of C-3 District building space for 1984 are based on 1981/82 data for the C-3 District collected for the Downtown Plan analysis. The Downtown EIR Land Use Inventory was conducted to provide a base case from which the land use impacts of the Downtown Plan and Alternatives could be analyzed. The Inventory data on C-3 District space by use and subarea are presented in Table IV.B.1, on page IV.B.2 of the Downtown Plan EIR. The estimates of land use change between 1981 and 1984 primarily reflect the projects under construction in the C-3 District as of mid-1982 and are presented on pages IV.B.14 to IV.B.16 of the Downtown Plan EIR. The text discusses the real estate market context for these short-term projections of land use change. It indicates that the amount of office space under construction exceeded the projected demand estimated according to longer-term employment growth forecasts prepared for the Downtown Plan analysis. Therefore, some of the space assumed to be built by 1984 (and included in the 1984 totals identified herein) would be absorbed later in the 1980s. Appendix G of the Downtown Plan EIR provides background for the EIR land use and development forecasts. Section IV.B and Appendix G of the Downtown Plan EIR are hereby incorporated by reference pursuant to State CEQA Guidelines Section 15150. The C-3 District Land Use Inventory is available for public review at the Department of City Planning.

[2] Ibid., pages IV.B.34-35. This estimate accounts for new construction, as well as demolition and conversion of existing space.

The forecasts presented in this paragraph and the following paragraph for the Alternatives represent space that would be built and absorbed by 2000. Space that will be under construction and not yet occupied in 2000 is not included in the forecasts for 2000 for the Downtown Plan and Alternatives. Therefore, the annual average data from the forecasts are not directly comparable to annual averages for recent short-term (1980-83) office construction, as shown on the list compiled by the Department of City Planning. The short-term data include some projects that are not yet fully occupied.

[3] Ibid., page VII.B.4 and accompanying text.

[4] Ibid., page VII.B.2 and accompanying text.

[5] Association of Bay Area Governments (ABAG), "Bay Area Office Growth," Berkeley, California, April, 1981, pages 31-62. This number may be an underestimate because the sources for the report apparently do not always include small office buildings.

[6] Ibid, page 18.

B. TRANSPORTATION

Downtown

Since publication of the FEIR for the project, several changes to the transportation network in the downtown area have occurred. Most noticeable are the Muni route changes. Figure 2, on the following page, shows the existing (1984) Muni system in the downtown area. Also shown are the locations of BART stations. Table 3 of the Transportation Impacts section shows 1984 ridership on transit agencies serving the downtown area. When the data in Table 3 (page 54) are compared to those on pages 33 through 36 of the FEIR, it can be seen that ridership on some transit agencies has been steadily increasing between 1981 and 1984. The comparison also shows that Golden Gate Transit Bus and SPRR (CalTrain) have been experiencing losses of ridership in recent years. Ridership on AC Transit has stayed about the same since the FEIR. Capacity increases have occurred on several of the transit systems, most noticeably on BART, which has implemented a "short-headways" program, and on Muni, which has changed its basic route structure to provide additional zoned express service to the downtown and enhanced feeder service to BART.

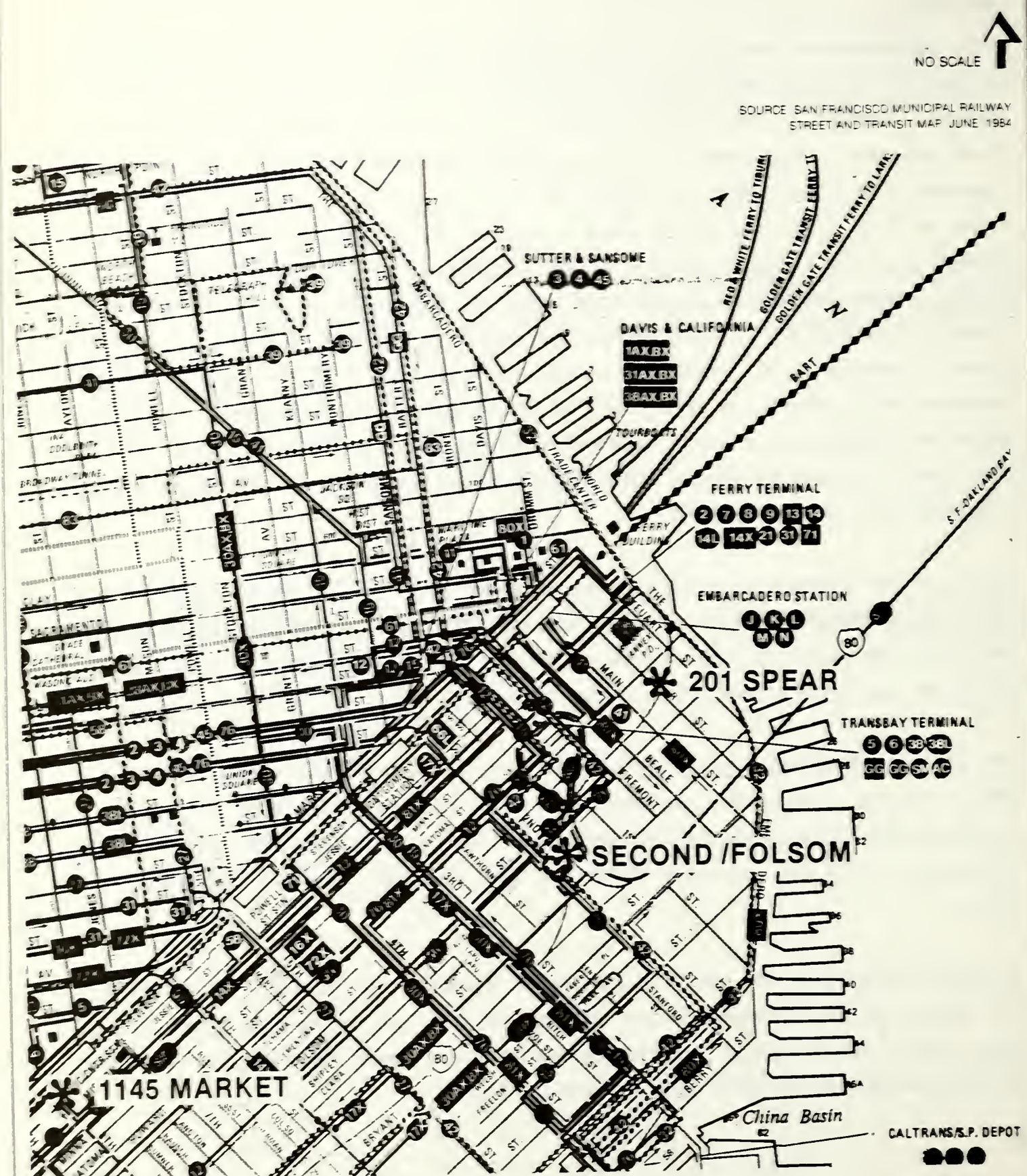
Table 4 of the Transportation Impacts section shows pedestrian volumes for 1984. When that table is compared to information included on page 25 of the FEIR, it is apparent that pedestrian volumes on the sidewalks have increased slightly, but not enough to change the pedestrian flow regimen from that reported in the FEIR.

The 1983 San Francisco Cordon Count (JHK and Associates, 1983) shows that vehicle traffic volumes crossing the Metropolitan Traffic District (MTD) boundary have not increased substantially since the last cordon count was conducted in 1965.[1] Thus, traffic conditions in 1984 are essentially unchanged from the 1981 conditions reported in the FEIR.

Parking availability in and near the C-3 district has continued to decline between 1981 and 1984, both as a function of new demand and from loss of existing space to new construction.[2] As a result of the declining availability of parking, occupancies in parking facilities would be higher than those reported in the FEIR.

MUNI ROUTES IN THE PROJECT VICINITY

FIGURE 2



[1]The Metropolitan Traffic District (MTD) is the area roughly bounded by China Basin, the Embarcadero, Fourteenth St., Van Ness Ave., Bush St., Powell St., and Pacific Ave.

[2]Downtown Plan EIR, pp. IV.E.16-18.

C. AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentrations of six air pollutants: ozone (O_3), carbon monoxide (CO), total suspended particulates (TSP), lead (Pb), nitrogen dioxide (NO_2), and sulfer dioxide (SO_2). On the basis of the monitoring data, the Bay Area, including San Francisco, currently is designated a non-attainment area with respect to the federal ozone and CO standards. A three-year summary of the data collected at the BAAQMD monitoring station nearest the project site (about two miles southeast of the site at 900 23rd Street) is shown in Appendix D, pages A-24 and A-25, together with the corresponding federal and/or state ambient air quality standards. In 1984, there was one violation of the federal and state one-hour average ozone standards, one violation of the federal and state eight-hour CO standard, and five violations of the previous state 24-hour average TSP standard; in 1983 there was one violation of the federal and state eight-hour standard, and four violations of the previous state 24-hour average TSP standard; and in 1982 there was one violation of the federal and state eight-hour CO standard, and three violations of the state 24-hour average TSP standard.[1]

BAAQMD has conducted two CO "hotspot" monitoring programs in the Bay Area, including San Francisco. One CO hotspot monitoring program was conducted during the winter of 1979-80 at the intersection of Washington and Battery Streets in San Francisco, about 1.5 mile northeast of the site.[2] The high-eight hour average concentration was 10.1 ppm, which violates the 9-ppm state and federal standards by 1.1 ppm. The high one-hour average concentration of 15 ppm does not violate the 20-ppm state standard or the 35-ppm federal standard. Another CO hotspot monitoring program was conducted during the winter of 1980-81 at the intersection of Geary and Taylor Streets, about one-half mile northeast of the site, and 100 Harrison Street at Spear, about two miles northeast of the site.[3] At Geary and Taylor the observed high eight-hour average concentration was 11.5 ppm which violates the standards by 2.5 ppm and the high one-hour concentration was 15 ppm which does not violate the standards. At Harrison Street the observed high eight-hour and one-hour average concentrations were 7.8 ppm and 13 ppm, respectively, which do not violate the standards. These data indicate that locations in San Francisco near streets with high traffic volumes and congested flows may experience violations of the eight-hour CO standard during adverse meteorological conditions.

Comparison of these data with those from other BAAQMD monitoring stations indicates that San Francisco's air quality is among the least degraded of all the developed portions of the Bay Area. Two of the three prevailing winds, westerly and northwesterly, blowing off the Pacific Ocean, reduce the potential for San Francisco to receive pollutants from elsewhere in the region.

San Francisco's air quality problems, primarily CO and TSP, are due largely to pollutant emissions from within the City. CO is a non-reactive pollutant with one major source category, motor vehicles. CO concentrations are generally highest during periods of peak traffic congestion. TSP levels are relatively low near the coast, increase with distance inland, and peak in dry, sheltered valleys. The primary sources of TSP in San Francisco are demolition and construction activities, and motor vehicle travel over paved roads.

San Francisco contributes to air quality problems, primarily ozone, a regional problem, in other parts of the Bay Area. Ozone is not emitted directly, but is produced in the atmosphere over time and distance through a complex series of photochemical reactions involving emitted hydrocarbons (HC) and nitrogen oxides (NOx), which are carried downwind as the photochemical reaction occurs. Ozone standards are exceeded most often in the Santa Clara, Livermore, and Diablo Valleys, because local topography and meteorological conditions favor the buildup of ozone and its precursors there.

In 1982, emissions from motor vehicles were the source of 86% of the CO, 46% of the hydrocarbons (HC), 44% of the TSP, and 56% of the nitrogen oxides (NOx) in San Francisco, while power plant fuel combustion was the largest single source of sulfur oxides, about 33% of the total.[4] These percentages are expected to apply reasonably well to current conditions.

In response to the Bay Area's ozone and CO non-attainment designations, Association of Bay Area Governments (ABAG), BAAQMD, and the Metropolitan Transportation Commission (MTC) prepared and adopted the 1982 Bay Area Air Quality Plan, which establishes pollution control strategies to attain federal ozone and CO standards by 1987 as required by federal law.[5] These strategies were developed on the basis of detailed subregional emission inventories and projections, and mathematical models of pollutant

behavior, and consist of stationary and mobile source emission controls and transportation improvements. The BAAQMD, MTC, and California Bureau of Automotive Repair (a state agency) have primary responsibility for implementation of these strategies.

---

[1]State standards for particulate matter changed in 1983 to concentrate on fine particulate matter which has been demonstrated to have health implications when inhaled. Concentration standards also changed. There is not yet an adopted method for monitoring fine particulate matter. Until the State adopts a method, it is not possible to determine what proportion of TSP in San Francisco would be subject to review against the new standards.

[2]Association of Bay Area Governments, AQMP Tech Memo 33, "Summary of 1979/1980 Hotspot Monitoring Program," Berkeley, California, June 1980.

[3]Association of Bay Area Governments, AQMP Tech Memo 40, "Results of the 1980/1981 Hotspot Monitoring Program for Carbon Monoxide," Berkeley, California, January 1982.

[4]Bay Area Air Quality Management District (BAAQMD), Base Year 1982 Emissions Inventory, Summary Report, San Francisco, California, November 1, 1982.

[5]Association of Bay Area Governments (ABAG), BAAQMD and MTC, 1982 Bay Air Quality Plan, Berkeley, California, December 1982.

D. RESIDENCE PATTERNS AND HOUSING

Introduction

From the cumulative perspective two aspects of the analysis of housing-related impacts are important--residence patterns and housing market implications. Residence patterns are simply a description, through the use of absolute amounts and percentages, of where downtown workers live. The residence patterns describe workers only; they do not apply to the total population. Analysis of these patterns is useful in assessing the degree to which San Francisco residents benefit from job growth, in estimating travel demand, in considering the relationship between downtown job growth and labor force and housing throughout the region, as well as in considering the housing market effects of development. Residence patterns alone are not a description of housing market impacts in terms of the overall availability or price/rent of housing. In the setting discussion in this Supplemental EIR, the residence patterns of C-3 District workers describe how many C-3 District workers live in San Francisco and what proportion these San Franciscans represent of all employed San Franciscans. The number of C-3 District workers living elsewhere in the Bay Area is also described in this way.

This discussion uses citywide and regional demographic, labor force, and employment data and trends to illustrate relationships that are important to understanding the context for where people live and work. These relationships include the employed population relative to total population, the number of households and housing units relative to total population, employment growth relative to population growth, and the supply of housing in one location relative to others. These relationships, which reflect demographic and housing market factors, are indicators of how and why the residential distribution of C-3 District workers has changed in the past and might continue to change in the future.

The discussion of housing market implications focuses on the link between employment growth and the availability and price of housing, how changes in the housing market could affect various groups of consumers, and how residents' circumstances could change as a consequence of these effects.

As background for the subsequent cumulative impact discussion (Section V.E), this section presents current residence patterns for downtown workers, discusses trends in labor force, employment, and population for the City and the region, and describes current housing market conditions in San Francisco and the region.

Residence Patterns for San Francisco and the Region[1]

Current Conditions

In 1984 it was estimated that 159,000 C-3 District workers live in San Francisco. This group represented about 45% of all employed residents of San Francisco. In 1984 most C-3 District workers (55.5%) were estimated to live in San Francisco. The next largest group (73,000 or 26%), lived in the East Bay. About 35,000 (11.5%) lived on the Peninsula and about 19,000 (7%) in the North Bay. While, as mentioned above, these workers represented a relatively large share of the employed population in San Francisco (45%), they represented relatively smaller shares of the employed population in each of the other areas (less than 10% in each) (See Table 9, page 90). Thus, employment generated by future development in the C-3 district would have a greater impact on San Francisco than on other parts of the region.

Changing Conditions and Trends[2]

The conditions described above are not static, and in fact, have been changing over time. Trends indicate that the number of San Francisco workers who live in the City is increasing. The percentage that they represent of total City employment is declining. Changes in population, housing, labor force, and employment in San Francisco and the rest of the region provide background for these trends.[3]

Changes in the demographic composition of the City's population have resulted in growth in the number of employed persons (an increase of 24,200 from 1970 to 1980) despite the overall decline in total population (a decrease of 36,700 from 1970 to 1980). The growth of employed persons largely reflects higher labor force participation than in the past since the number of people in their working years (ages 16-64) has been relatively constant.

The number of households and housing units in the City has continued to increase, although by a relatively small amount. Given the population decline, the average number of persons per household has also decreased, while the number of adults and of employed adults per household has increased.

Demographic trends related to the population and labor force characteristics of the region outside of San Francisco show similarities to the trends for the City described above. From 1970 to 1980, the growth of employed persons exceeded the growth of the total population. Employed residents in the rest of the region increased by 670,000 (nearly 45% growth) over these 10 years, while population increased by 588,000 persons (about 15% growth). This reflects both the passing of the "baby boom" generation into their labor force years and the increasing labor force participation of women. The growth of employed residents exceeded the growth of households and of housing units, so that the average number of workers per household increased. The main differences between San Francisco and the rest of the region are the magnitudes of the changes, as the amount of growth in population and employed persons was much larger in the rest of the region than in San Francisco.

In the midst of these changes in population and labor force, business activity and employment have continued to grow in San Francisco. Jobs have grown at a faster rate and by a larger amount than the number of employed residents in the City. Thus, although the number of San Francisco jobs held by City residents has increased, the percent of jobs held by residents has declined. There has been a corresponding increase in the percentage of San Francisco jobs held by persons living elsewhere in the region. This indicates the increasing relative importance of housing and labor force outside of San Francisco to jobs in the City.

When considered from the perspective of City residents, the number of employed City residents working in San Francisco increased from 1970 to 1980. Although the percentage of residents working in San Francisco remains high (86% in 1980), this percentage has been declining. In other words, the rate of growth of employed City residents working in San Francisco is being outpaced by the rate of growth of employed City residents working elsewhere. Reasons for this trend include the large growth of jobs in other counties of the

region and the relocation of some San Francisco jobs to other counties. (San Francisco's share of total regional employment has declined, even though the City's employment has increased substantially.) Another factor is the increase in households with more than one worker, which increases the likelihood that some workers will commute to jobs outside the City.

The trends described above incorporate a combination of many individual changes in employment and place of residence. Changes in the place of residence of San Francisco or C-3 District workers occur as individuals are newly employed in San Francisco or the C-3 District, who had not previously worked there, and as both existing and newly employed workers move within the region.

The changes which result in individuals being newly employed in the City (who had not previously worked there) can affect overall residence patterns if those newly employed have different household and housing characteristics from those whom they replaced or from all other workers in the City. They are likely to have different characteristics if the mix of types of jobs is changing (such as more office jobs relative to other types of employment), if the demographic characteristics of the work force in general are changing (such as changes in age distribution or ethnic/racial characteristics) or if there are changes in the distribution of the labor force within the region (such as more growth of labor force members in the areas surrounding San Francisco than in the City itself or substantially larger growth in San Francisco employment than in employed City residents).

Changes in residence patterns also reflect housing market factors. Housing market factors have been particularly important in the recent past since the housing choices (housing types, prices, rents, locations) available have changed dramatically over the past five to ten years. Housing is now more costly relative to incomes and to other goods and services than it was in the past. Further, a greater share of the region's housing is now located outside of San Francisco, and City housing has become more costly relative to housing in many other parts of the region than it once was. While housing choices change over time, their effect on residence patterns primarily occurs when a household enters the market to purchase or rent housing. Thus, as workers select their place of residence a greater share are likely to live outside of San Francisco and those who choose to reside in

the City may have different characteristics from the average of all other employees who secured housing in San Francisco under a different market situation.

Housing Market Conditions in San Francisco and the Bay Area

Housing Market Context

Since the early 1970s, housing prices and rents have increased dramatically in San Francisco and throughout the Bay Area. Demand for housing has been strong and supply has not kept pace with demand in many areas. In addition, in the early 1980s, major changes in financial markets substantially increased the cost of money for housing. Many different factors contribute to the current housing market situation. These include changing lifestyles, changing demographic and household characteristics, changing household incomes, employment growth, the attractiveness of the Bay Area as a place to live, the availability and cost of financing, the attractiveness of real estate as an investment, no-growth policies in some communities, and the increasing scarcity of land in other communities.

As a result of all of these factors, many households now allocate a greater share of their financial resources to housing, and the housing choices available at various prices and rents have changed. Many people cannot now afford the housing they prefer and many are not housed at the standard that, until recently, they had come to expect.

Changing Conditions in San Francisco's Housing Market

From 1970 to 1980, net additions to the City's housing stock included 6,200 units for an increase of two percent. About 1,900 units were added from 1980 through 1982. Most of the units added were for-sale housing. Overall, about one-third of the City's stock continues to be owner-occupied and about two-thirds renter-occupied. Among Bay Area counties, San Francisco has the largest percentage of renter-occupied units.[4]

This net addition represents low growth of the housing stock relative to the strength of demand over this period. The low vacancy rate in San Francisco highlights the severity of the housing market pressures in San Francisco. Data from the Federal Home Loan Bank show a vacancy rate of 0.8% for San Francisco. San Francisco had the lowest housing vacancy among the nine counties of the Bay Area in 1981.[5]

These market pressures are part of the explanation for the substantial increase in housing prices in the City. Market trend data based on appraisals indicate that housing value increases averaged 8.5% per year in the early 1970s and over 23% per year from 1975 to 1980. From 1980 to 1983, appreciation has slowed to around an annual average of six percent. San Francisco housing prices remain above those for housing in many other parts of the region. The market trend data indicate that the rates of increase in San Francisco have exceeded those in most other areas.[6]

Rents in San Francisco have also increased. Census data indicate that median contract rent more than doubled from 1970 to 1980, for an average annual growth of 7.6%. Rents in San Francisco generally cover a wider range than rents in other parts of the region, including some of the lowest rent housing and some of the most expensive rental units in the region.[7]

Despite rising housing prices and rents, the private market continues to be unable to produce enough new housing to relieve competitive pressures. Because of the high costs of land, financing, and construction, the private market cannot produce housing that is affordable to many households. Producing rental housing has been particularly difficult since residential rents, unlike for-sale housing prices, have not kept pace with rising construction and land costs or with inflation.

Incomes of City residents have not kept pace with increases in the costs of housing. During the 1970s, on average, income increased by about 135% over the period, while housing costs overall (combining median prices and rent) went up about 165%.[8] Thus, the percentage of income allocated to housing increased.

The percentage of income spent on housing is higher for lower income households. The percentage declines as income increases. Across income categories, the percentage of income spent on housing is higher for renters than for owners. For example, census data show that of the 31% of households with incomes under $10,000 in 1979, on average, the renters spent 48.6% of their income for housing and the owners spent 26.0% for housing. Of the 39% with 1979 incomes of $20,000 or higher, the renters spent 15.7% of their income on housing while the owners spent 11.2%.[9]

In the current housing market, incentives to upgrade existing housing continue. Consumers priced out of higher priced neighborhoods are often attracted to areas where housing can be secured initially at lower costs and investments made to upgrade the units. As this occurs, the desirability of the area improves, prices and rents rise, and the types and incomes of the households living in the neighborhood change. Moreover, the housing stock at lower prices and rents is reduced. This phenomenon (often called "gentrification") has occurred in areas of San Francisco. It has occurred primarily in neighborhoods with housing priced at below average levels but which is not the lowest priced housing in the City. In recent years, increasing preferences for central city neighborhoods and older housing and an increase in the types of households with these preferences have combined with overall competitive market conditions to support upgrading of this type.

Regional Perspective on Housing Market Conditions

Most of the housing market conditions described above for San Francisco are applicable throughout the Bay Area. Increases in home prices and in interest rates during the past decade have raised the cost of ownership housing. As a result, many first-time homebuyers and new entrants into the region's housing market now have difficulty affording Bay Area housing. In the rental housing market, a large number of households also face an affordability problem. The lack of new construction and continued strong demand support upward pressure on rents. Among renters, many lower income households are faced with increasing difficulty securing affordable housing.

Although these conditions exist to some extent in other parts of the country, the Bay Area remains one of the most desirable places to live and has one of the most competitive housing markets in the nation. Because of the limited supply of land in San Francisco, the role of the City as the employment center for the region, and the demographic characteristics of the City's population, the region's market conditions, in terms of supply, demand, and price, are at their extreme in San Francisco.

Between 1970 and 1980, 436,200 housing units were added in the Bay Area. Most of the additions were in the East Bay and the Peninsula, each with about 40% of the total

increase. The largest percentage increase in housing over the period occurred in the North Bay counties.[10]

The shortage of supply relative to demand is evidenced in the vacancy rates for Bay Area counties. In 1983, the vacancy rate in Bay Area counties was below 2% except in Solano County which had a vacancy rate of 2.1%. With the exception of Solano County (where the 1980 vacancy rate was 3%) this situation has persisted since 1980.[11]

Market trend data on the value of single family residences in the Bay Area reflect the strong demand for housing in the region. Over the region as a whole, housing values increased almost fourfold between 1973 and 1983; the annual rate of increase in value was about 14% per year, compounded. The pattern is similar among East Bay, Peninsula and North Bay housing submarkets. In San Francisco, the data indicate somewhat stronger demand and more market pressure on existing units than the average for the region.[12]

---

[1]The data and information presented in this sub-section are based on a survey and analyses of C-3 District employment and residence patterns prepared for the Downtown Plan EIR. This information, therefore, does not account for all workers in the greater downtown area; it does, however, describe the majority of the work force in that area. The residence patterns for C-3 District workers in 1984 are presented in the Downtown Plan EIR on pp. IV.D. 36-39 and, in the context of future residence patterns, in Table IV.D.15 on p. IV.D.64. The survey results related to the residence patterns of C-3 District workers are presented in the setting section on Residence Patterns and Housing (Section IV.D) in the Downtown Plan EIR, which is available for review at the Department of City Planning.

[2]The trends summarized here are discussed in more detail with relevant tables in the Downtown Plan EIR, pp. IV.D.42-53, which are hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.

[3]Population and employment data from the U.S. Census, 1960, 1970 and 1980 for San Francisco and the region are the basis for the following discussion.

[4]U.S. Department of Commerce, 1970 Census of Population and Housing, and 1980 Census of Housing and San Francisco Department of City Planning, Residence Element of the Comprehensive Plan, June, 1984.

[5]Real Estate Research Council, Year-End 1983 Report - May, 1984, Volume 35/Numbers 2 and 4.

[6]Real Estate Research Council, Market Trend Report - April, 1983, Volume 35/Number 1.

[7]U.S. Department of Commerce, 1970 Census of Population and Housing, and 1980 Census of Housing.

[8]Ibid.

[9]Ibid.

[10]Ibid.

[11]Real Estate Research Council, Year-End 1983 Report - May, 1984, Volume 35/Numbers 2 and 4.

[12]Real Estate Research Council, Market Trend Report - April, 1983, Volume 35/Number 1.

V. ENVIRONMENTAL IMPACTS

A. INTRODUCTION TO CUMULATIVE IMPACT ANALYSIS

Comparison of Two Approaches

Two approaches are used to assess cumulative impacts. The "Downtown Plan EIR forecast" approach presents a cumulative scenario for C-3 District land use change, employment growth, and residence patterns between 1984 and 2000. This approach incorporates the effects of changes in downtown zoning policy on future growth, specifically the effects of the proposed Downtown Plan and Alternatives.

The Downtown Plan EIR forecast approach presents a cumulative scenario for C-3 District land use change and employment growth between 1984 and 2000. This approach provides growth forecasts based on analysis of policies affecting the size, cost, and location of new development, in the context of underlying local and regional economic conditions influencing the demand for space. These forecasts identify the likely rate of absorption of space in projects already approved. They also identify the additional space expected to be built and absorbed by the year 2000 in response to the demand for space to accommodate employment growth and consistent with the ability to add space under future policies. The purpose of the forecast approach was to identify long term growth under proposed policies which would represent a change from current and past policies.

The methodology for the Downtown Plan EIR forecasts is not described in detail in the Supplemental EIRs since it is explained in the Downtown Plan EIR. It is a more complex methodology than the list-based approach since it considers the effects of more factors and considers changes over time in existing conditions in addition to the changes due to growth.

A detailed explanation of the methodology can be found in the Downtown Plan EIR itself with clarification provided particularly in Sections B.1 and B.2 of that EIR's Responses to Comments.

The "list-based" approach uses the March 22, 1985 list of projects in the greater downtown area (including those outside the C-3 district) that are under construction, approved, and under formal review by the Department of City Planning as the basis for estimating future activity. (See Appendix B, pp. A-3 to A-13, for a complete listing of projects on the cumulative list and an explanation of the list.) The space in projects on the list represents foreseeable future development which is added to the base year (1984) level of activity. The growth of downtown employment to be accommodated by the development of these projects is estimated by converting additional space into additional employment using employment density factors currently in evidence in downtown San Francisco as identified in the Downtown Plan EIR Employer Survey (see Appendix E in the Supplemental EIRs).

Under the list-based approach, the future impacts of new downtown construction are estimated on the basis of a list of all specific downtown projects under construction, approved and under formal review. In contrast to the Downtown Plan EIR methodology, the list defines only an amount of develoment that is likely to occur; it neither defines nor predicts when the impacts of that development will be felt; thus, no specific time frame is attached to the list-based analysis.

The approximate time period within which the projects on the list will be completed, and EIR the additional space they provide absorbed, is relevant for assessing cumulative impacts. Such a time frame helps to identify the future local and regional context within which the impacts of the growth accommodated by the list projects will be felt. Although the list projects may be built by the early 1990s, and some will be built earlier, project construction per se is not the relevant event for assessing future impacts. The transit, housing and other impacts analyzed in this Supplemental EIR will be felt only when the projects on the list are occupied. More precisely, such impacts will be felt when the additional space the projects contribute to the overall downtown market is absorbed by downtown employment growth. References to occupancy of the list projects in this Supplemental EIR are therefore more properly references to overall absorption of the space provided by the projects. Enough employment growth to absorb the additional space represented by the March 22, 1985 list is expected to occur during the 1990s -- probably the mid-1990s.[1] Thus, if one were to put a time frame on the cumulative impacts to occur because of the development of the projects on the list, it would be mid-1990s.

Under the list-based approach, no assumption is made about future development beyond those projects on the list. This is a limitation of the list-based approach to cumulative impact assessment: the analysis can only go as far as the last application for project review. To extend the list beyond applications for review by the City would be speculative. It would be an improper use of the list-type of cumulative analysis to extend a list of relatively "known" projects, through speculation as to the next group of applications likely to be received.

The list-based approach does not incorporate any conclusions about the effects of changes in policies such as the proposed new downtown zoning.

In the subsequent cumulative impact sections, the project's effects are compared to the overall effects within each of these two cumulative contexts. Because of several essential differences between the two approaches, data derived from each approach cannot be directly compared. However, the projected cumulative analyses using each method results in a similar assessment of the impact of cumulative growth in the downtown on San Francisco and the region.

The following chart (Figure 3) highlights the differences between the Downtown Plan EIR forecast approach and the list-based approach. Generally, the basic difference is that the Downtown Plan EIR approach accounts for changes to a range of land uses as well as changes over time in worker characteristics and behavior, while the list-based approach is limited to known projects of certain types and assumes unchanging characteristics and behavior. These two approaches are alternative means of assessing the future cumulative context for downtown development. They use different available data sources and information and different assumptions. The specifics are listed on the chart. Both of these are described as acceptable and the California Environmental Quality Act (CEQA) Guidelines, Section 15130(b).

Figure 3: COMPARISON OF CUMULATIVE IMPACT ASSESSMENT METHODOLOGIES

	Downtown Plan Forecast Approach	List-Based Approach
Focus of Impact Assessment	Impacts of C-3 District land use and employment within context of rest of City and region	Impacts of land use and employment in the greater downtown area (including C-3 District and adjacent areas) within context of rest of City and region
Time Frame	1984 base year	1984 base year
	Changes in C-3 District land use and employment forecast to occur between 1984 and 2000	Changes in greater downtown land use and employment determined by buildout and absorption of March 22, 1985 List of Cumulative Office Development in Downtown San Francisco. (Although no specific date is attached to these changes, they could occur between 1990 and 2000; probably during the mid-1990's).
Land Use	1984 base year includes all land uses	1984 base year includes all land uses
	Incorporates changes over time in office, retail, hotel, industrial, and all other C-3 District space	Incorporates net additions of office and retail space in greater downtown area as shown on the List
	Reflects changes in response to market demands for space within context of C-3 District planning policies	Reflects changes as a result of development of projects on the List
	Incorporates new construction, demolitions, and conversions for all land uses	Incorporates new construction and demolition of office and retail space and conversions to office and retail uses as included on the List
	Incorporates more intensive use of space (both existing and new) over time. (e.g. employment density for management/technical office is 276 gross sq. ft. of occupied space per employee in 1984 and 267 gross sq. ft. per employee in 2000)	Intensity of use of space does not change over time. (e.g., employment density for management/technical office is always 276 gross sq. ft. of occupied space per employee)
Employment	1984 base includes all C-3 District employment	1984 base includes all employment in the greater downtown area
	Changes over time incorporate increases and decreases in all types of permanent employment directly associated with a land use, in building maintenance/ security employment, and in construction employment	Changes over time incorporate the growth of office and retail employment as a result of development of the projects on the List
Residence Patterns and Housing	Residence patterns change over time reflecting changing regional labor force, housing market, employment and transportation factors. (e.g., the percentage of C-3 District management/technical office workers living in San Francisco is currently 49% and would decline to 44% in 2000)	No change in residence patterns from current conditions (e.g. the current 49% of C-3 District management/technical office workers living in San Francisco is assumed to continue to apply)
Transportation	Trip generation has been adjusted to account for travel between buildings (such as between office and retail uses) which does not leave the downtown	No adjustment made to trip generation: all trips for building on the List counted as new travel in or out of downtown
	Modal split changes over time reflecting capacity improvements, changing residence patterns, and behavior adaptations	No changes from current modal splits are assumed
	Includes growth of local and regional non-C-3 District travel	Local and regional non-C-3 District travel assumed to remain constant at 1984 levels except for addition of travel due to development of the projects on the List
Key Reference	Downtown Plan EIR, EE81.3, March 16, 1984	Transportation Guidelines for Environmental Impact Review: Transportation Impacts, September, 1983

Comparison of the Project to Cumulative Development in the C-3 District and the Greater Downtown Area

The two approaches to cumulative assessment of transportation, air quality, energy and housing impacts start with estimates of building development. Over the 1984-2000 period, a net addition of 21.7 million sq. ft. of space for all uses is forecast for the C-3 District under the Downtown Plan in the Downtown Plan EIR. This estimate falls near the lower end of the range represented by the five Alternatives to the Plan (between the 21.3 million sq. ft. net addition forecast for Alternative 5 and the 29.9 million sq. ft. net addition forceast for Alternative 2).[2] As of March 22, 1985, the City's list of cumulative office development included the net addition of 21.8 million sq. ft. of office and retail space in the greater downtown area.

The project (145,200 sq. ft. of net additional office and retail space) can be compared to each of these estimates of cumulative development. The project is in the C-3 District and would be completed during the 1984 to 2000 period. It would represent 0.7% of the total increase in space forecast for this area under the Downtown Plan in the Downtown Plan EIR. The project is on the list of cumulative office development in the greater downtown and would represent about 0.7% of the total net additional office and retail space in projects on the list.

---

[1]The mid-1990s time frame was determined by comparing the amount of employment growth that would be accommodated downtown by the additional space shown on the March 22, 1985 list to forecasts of future employment growth. These forceasts were based on extensive economic analysis of the many factors and trends influencing future economic growth and the demand for additional downtown space. Based on such a comparison, it was concluded that enough employment growth to absorb the additional space provided by the list projects may be expected by the mid-1990s.

[2]The Alternatives to the Downtown Plan are summarized in the Downtown Plan EIR, EE81.3, certified October 18, 1984, in Section VII., Alternatives. Alternative 1 is the "Planning Code Alternative"; Alternative 2 is the "Chamber of Commerce Alternative"; Alternative 3 is the "Proposition 'O' Alternative"; Alternative 4 is the "San Franciscans for Reasonable Growth Alternative"; and Alternative 5 is the "Department of City Planning Alternative".

B. TRANSPORTATION

TRAVEL DEMAND ANALYSIS

Project Travel Demand

On the basis of land use, the project would generate about 3,689 net new person trip-ends (pte) per day.[1] These figures include trips made by auto, public transit, service vehicles, and other modes (and include trips by visitors and employees). Projected p.m. peak-period and peak-hour trips by mode expected to be generated by the project are shown in Table 1. About 515 new outbound trips would occur during the p.m. peak period from the project, of which about 310 would occur in the p.m. peak hour.[2]

Assignments to travel modes (including service and delivery vehicles) for the project have been made on the basis of future modal splits from the Downtown Plan EIR (EE81.3) for the year 2000.[3] The future modal splits have been applied to the project travel for the purpose of comparing project travel with future travel demand on the transportation system serving San Francisco. The fundamental assumption in the application of a future modal split to project travel is that the project travelers would behave in a fashion similar to the majority of travelers in the downtown. The modal splits used were derived from aggregate data for the C-3 District, the zoning district that contains the project site, and thus represent an average condition. The actual modal split for travel from the project may vary from the C-3 District average. However, because the travel demand forecasts used to derive the average modal split data include the travel from the project, application of the average modal split data to project travel appears to be sufficiently accurate for purposes of comparison.

Cumulative Travel Demand

Analysis of the transportation impacts of cumulative development in San Francisco EIRs has been the subject of considerable public discussion. Until recently, cumulative analysis was conducted solely on the basis of a list of proposed development in the greater downtown area (see Table B-2, Appendix B, for the March 22, 1985 list of these projects). The Downtown Plan EIR method is a refinement of the transportation analysis process that uses projections of employment growth, independent of a list of proposed projects, to project future travel.[4]

TABLE 1

DISTRIBUTION OF NET NEW PROJECT PERSON TRIPS
OUTBOUND DURING PM PEAK PERIOD

Location and Mode	Peak-Period Person Trips (1-hr/2-hr) Work	Non-Work	Total[1]
San Francisco			
Auto	37/59	2/4	39/63
Muni			
NE	6/15	4/8	10/22
NW	22/35	1/1	23/37
SW	20/39	1/2	21/41
SE	4/9	1/2	5/11
BART	6/12	1/2	7/13
Walk	10/20	53/102	63/122
Other	2/4	0/1	2/5
	107/192	63/121	170/313
East Bay			
Auto	20/23	1/2	21/26
BART	38/58	3/6	41/64
AC	13/22	---	13/22
Other	1/1	---	1/1
	72/104	4/8	77/112
Peninsula			
Auto	17/25	0/1	17/26
BART	7/9	1/1	8/10
Samtrans	4/8	---	4/8
SP	6/7	1/2	7/9
Other	1/3	---	1/3
	36/52	2/4	38/56
North Bay			
Auto	8/10	1/2	9/11
GGT Bus	12/18	1/1	12/18
GGT Ferry	2/2	---	2/2
Other	2/2	---	2/2
	24/32	1/3	25/35
Total	239/380	71/136	310/516

Source: EIP Associates; and Department of City Planning, Office of Environmental Review (OER), Final EIR for the Downtown Plan, EE81.3, Certified October 18, 1984, on file at OER, 450 McAllister Street, Fifth Floor, San Francisco, CA.

[1]Numbers may not total exactly due to rounding.

Downtown Plan EIR Methodology

As discussed in Appendix J of the Downtown Plan EIR, transit service improvements have been assumed to be implemented by the year 2000. The service improvements assumed to occur correspond to the vehicle acquisition portions of the 5-year Plans for Muni, AC Transit, SamTrans, CalTrain, and Golden Gate Transit. For BART, both the vehicle acquisition program and the trackage improvements (Daly City tail track) were assumed to occur. These planned improvements would allow system capacities to keep pace with demand increases over time. The Downtown Plan EIR transportation analysis also assumes that regional auto use will continue to change over time in response to increasing levels of congestion on the bridges and freeways serving the City. The analysis projects a shift from single-occupant auto use (drive alone) for commuting to ridesharing (carpool, vanpool), and to transit use. The assumptions of continuing shift from auto to transit and ridesharing, most apparent in the 2000 modal splits, are made on the basis of long-term trends in transit use in the San Francisco commute corridors. Census data show that during the period of 1970 to 1980 transit use for commuting increased. Similarly, Bay Bridge data show that ridesharing has been increasing over the last seven years. Thus, the shift to transit and ridesharing is well-established in San Francisco commute corridors.

The travel data presented in the Downtown Plan EIR transportation sections (and in this report) are projections of total demand on the transportation system serving San Francisco. The projections comprise three components of travel demand. Two of the components were developed through an intricate travel modelling process for the C-3 District of San Francisco. These first two components of travel demand are C-3 District work (employee journey-to-work) travel and C-3 District non-work (all other) travel. The third component is non-C-3 District travel, which was forecast through an analysis of regional trends adjusted for the effect of development in the C-3 District. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco and other parts of the region. Employment projections are not specifically used in the non-C-3 travel analysis.

Although the C-3 District transportation modelling process used analytical techniques common to travel forecasting, several portions of the process are unique to the C-3 District. The uniqueness is the result of the development of two major data bases -- an inventory of existing land uses in the district and surveys of employees and employers in the district. The data developed from the surveys and the inventory have been used as the basis for forecasts of development and employment growth in the C-3 District. Sections IV.B, Land Use and Real Estate Development; IV.C, Business and Employment; IV.D., Residence Patterns and Housing; and Appendices G, Land Use and Real Estate Analysis; H, Business and Employment Analysis; and I, Theoretical Discussion of Housing Market Effects/Methodology for Forecasting Residence Patterns, of the Downtown Plan EIR, which contain detailed information about methods used to project future employment in the C-3 District, are incorporated by reference into this report and summarized below and in the Land Use and the Residence Patterns and Housing sections of this Supplemental EIR.

The cumulative analyses for forecasting future land use, employment, and residence patterns are described in the Downtown Plan EIR. Appendix sections therein describe the methodology, identify the factors considered, and identify the types and sources of data used. A concise description of the major components of the process of developing employment and land use development forecasts is presented in the flow charts in Figure H.1 and Figure G.1 of the Downtown Plan EIR. The factors considered in forecasting residence patterns are identified in the diagram in Figure I.1.

The Downtown Plan EIR approach for forecasting future land use, employment, and residence patterns is based on a conceptual framework of the process of urban economic development. The analytical procedures incorporate a variety of types and sources of data and information concerning past, current, and likely future conditions regarding economic, real estate, demographic, and public-policy factors.

The employment projections in the Downtown Plan EIR for the year 2000 exceed the employment projected using the current list-based cumulative analysis, as the list cannot take into account projects not yet proposed. The employment forecasts have been used as the basis for the travel demand modelling process. As described above, the C-3 District

travel comprised two of the three components of total travel. Because of the use of the employment projections in the travel demand modelling process, the transportation forecasts for the year 2000 are independent of lists of cumulative development.

Through a complex calibration and validation process of comparing projections of travel demand modelled on the basis of the survey of C-3 District employees to actual travel from measurements made by state, city and regional agencies, work and non-work travel demand from the C-3 District was modelled for the years 1984, 1990 and 2000. The modelling process comprises the following steps:

- Trip generation rates (empirical measures of total travel to and from a specific land use) were applied to employment forecasts by business activity (i.e., different rates were used for various land uses).
- The total travel from the C-3 District was distributed to seven Bay Area zones on the basis of projections of future employee residence patterns and origin/destination patterns for non-work travel.
- Trips to each of the seven regional zones were assigned to travel modes on the basis of modal splits (distribution of travel over the transportation modes --auto, transit, etc.) developed from the C-3 District surveys.

At this stage of the process, the model forecasts total travel from the C-3 District. To complete the process and to allow analysis of the effect of travel demand from C-3 District development on the transportation network, the non-C-3 travel demand was analyzed. The total travel demand was calculated by summing C-3 District work and non-work travel and non-C-3 travel at subregional measuring points (called screenlines) located at or just beyond the San Francisco County Line (except for Muni and BART Westbay service which were measured inside San Francisco, outside the downtown). The total travel demand was then compared to available service (capacity) at the screenlines and operating conditions (demand-to-capacity ratios) were analyzed assuming planned improvements. The results of those analyses are summarized later in this section.

As shown in Table 2, travel demand from the Alternatives in the Downtown Plan EIR ranges from Alternative 1 (about 17% higher than the Downtown Plan) to Alternative 4 (about 5% lower than the Plan). Although there is a range, the spread is within the level

TABLE 2: COMPARISON OF LIST METHOD AND ECONOMIC FORECAST METHOD --
OUTBOUND P.M. PEAK-HOUR CUMULATIVE TRAVEL DEMAND FROM C-3 DISTRICT GROWTH (person trip ends)

Mode of Travel	3/22/85 List[1]	Downtown Plan (1984-2000)[2]	Alternative 1 (1984-2000)[2]	Alternative 2 (1984-2000)[2]	Alternative 3 (1984-2000)[2]	Alternative 4 (1984-2000)[2]	Alternative 5 (1984-2000)[2]
Work Person Trip-ends	24,200	41,400	47,600	46,200	44,400	39,100	39,700
Other Person Trip-ends	7,000	12,100	14,700	14,200	13,400	11,800	11,800
Total Person Trip-ends	31,200	53,500	62,500	60,500	57,900	51,000	51,600
Muni Northeast	900	1,600	1,700	1,600	1,600	1,700	1,700
Northwest	4,000	1,800	2,000	1,900	1,800	1,800	1,800
Southwest	3,200	1,100	1,100	1,000	900	800	800
Southeast	700	1,100	1,000	1,000	1,000	600	700
BART Eastbay	4,600	11,800	13,300	13,100	12,700	11,300	11,300
Westbay	1,800	2,400	2,800	2,700	2,600	2,300	2,300
AC Transit	2,000	200	600	500	300	-100	-100
GGT Bus	1,100	3,200	3,700	3,600	3,500	2,700	3,100
Ferry	300	800	800	800	800	800	800
SamTrans	300	1,200	1,300	1,300	1,200	1,000	1,100
SPRR/CalTrain	500	1,800	2,000	1,900	1,800	1,700	1,700
Regional Auto[3]							
Golden Gate Bridge	380	410	630	590	540	390	370
Bay Bridge	1,030	1,250	1,550	1,540	1,510	1,060	1,110
Bayshore Freeway (U.S. 101)	480	470	650	620	590	400	400
Interstate 280	480	470	650	620	590	400	400

[1] Travel from only those projects on the list that are located inside the C-3 District. The list also contains development located in the greater downtown area outside the C-3 District; travel from those projects has been included in the list-based travel shown in the remainder of this section.

[2] Travel from the C-3 District only. The analysis used in the Downtown Plan Draft EIR assumes growth in regional travel that is not shown above; it is discussed in the remainder of this section.

[3] Vehicle trip-ends; calculation made on the basis of 3 persons per carpool and 5 persons per vanpool. Person trip-ends on transit cannot be added to vehicle trip-ends to obtain total person trip-ends because of the varying numbers of persons per vehicle.

Source: Environmental Science Associates, Inc. and EIP Associates

of accuracy of the transportation analysis, and thus, statistically, the transportation impacts of the Alternatives are equivalent to those of the Downtown Plan.

For future years, the C-3 travel modelling process was modified to incorporate changes in travel patterns (modal split changes, different travel times), employee residence patterns and changes in land use patterns. The process incorporates the dynamic aspects of changing Bay Area travel patterns, rather than assuming a fixed, unchanging condition over time. An example of past changes in travel patterns can be seen in the amount of carpooling activity on the Bay Bridge. In 1977, peak average vehicle occupancy westbound on the Bridge was 1.7 persons per vehicle. By 1983, in response to increasing congestion and increased travel and parking costs, peak average vehicle occupancy westbound increased to 2.1 persons per vehicle.[5]

The non-C-3 travel demand at the sub-regional screenlines was forecast through the use of growth factors developed on the basis of historic trends in regional and subregional travel.[6] Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region.

The growth rate applied to identifiable non-C-3 travel components was based on the total growth over the 5-year period from 1977 to 1982 at the particular screenline in question. That overall growth rate was used only on measured non-C-3 travel to arrive at future non-C-3 travel volumes, while future C-3 travel was based on employment forecasts for the C-3 District in the future. Because the non-C-3 growth rate was based on total travel at screenlines, use of that rate to describe future non-C-3 travel assumes that non-C-3 travel would in the future grow at the same rate as C-3 plus non-C-3 grew in the past. When one considers that these growth rates include the effects of the increase in C-3 District employment between 1977 and 1982, it is apparent that the rates conservatively overestimate the potential for growth of the non-C-3 components of travel at the screenlines.

Historic growth rates (factors) have been used to project increases only for non-C-3 District travel at the regional screenlines. No other use of historic growth rates has been

made in the transportation analysis. The screenlines are points of maximum effect of travel from the C-3 District; at points further removed from the screenlines, C-3 District travel would be a lesser percentage of the total and thus the overall effects of C-3 District travel would be less than at the screenlines. Because of the individual and unique nature of each of the transportation screenlines, each growth rate is based on data for that location. Thus, the growth rates for freeways project growth in auto trips, while the growth rates for transit project growth in ridership.

The portion of travel labeled "C-3 travel" in many cases also includes some non-C-3 travelers. As explained in Appendix J to the Downtown Plan EIR, in some cases it was not possible to separate C-3 and non-C-3 travelers reflected in the totals. (See pages J.20-25.) When this was the case, since the EIR covers various alternative growth controls for the C-3 District, C-3 travel was emphasized in order to show C-3 District impacts in the most conservative light. For example, although BART ridership includes a non-C-3 component, the C-3 component includes all riders who enter the system at the Market Street stations. Obviously, some travelers using one of the four Market Street stations actually work south of Folsom or in Chinatown or on Van Ness Avenue. Because these travelers are included in the C-3 numbers, the non-C-3 is under-reported but the total of C-3 and non-C-3 remains accurate (see Appendix J, page J.23). Golden Gate Transit and SamTrans illustrate this point even more strongly; survey data showed that C-3 use of these systems essentially equals total ridership, leaving no non-C-3 component. Although in reality there clearly are workers from outside C-3 who commute on these transit systems, the Downtown Plan EIR analyses called everyone C-3 because there was no statistical basis on which to separate the totals into two components and because the focus of the EIR was C-3 District impacts.

Each of the historic growth rates inherently contains information about regional growth in travel patterns and thus incorporates not only growth from other parts of San Francisco, but from elsewhere in the region. As an example, the historic growth factor for trips southbound on US 101 includes travel that crosses the Bay Bridge or the Golden Gate Bridge as well as travel from San Francisco. However, the growth is projected as growth in auto travel and cannot be related directly to growth in employment in San Francisco.

With these facts in mind, it becomes clear that while total travel on the various transportation systems is accurately projected by the computer model, the portion of the total that represents non-C-3 travelers can not be identified in such a way as to permit comparison with any estimates of numbers of workers expected to have jobs in the non-C-3 portions of the greater downtown.

List-Based Analysis

The other process used to forecast cumulative transportation impacts starts with a list of cumulative office and retail development (net new office and retail space) proposed, approved or under construction in the greater downtown area. From that list, through the use of static employment densities for office and retail uses and established trip generation rates, forecasts of travel demand are made. The forecast travel is assigned to modes on the basis of modal split factors which are assumed not to change over time. The Transportation Guidelines for Environmental Impact Review: Transportation Impacts (Department of City Planning, September 1983, hereinafter Transportation Guidelines) describe the process and the data used to calculate transportation impacts from the list-based development.

The current list, shown in Table B-2, has about 20.4 million gross sq. ft. of net new office space and about 1.4 million gross sq. ft. of net new retail space. On the basis of the Transportation Guidelines analysis, the list-based development would generate approximately 103,000 p.m. peak-period person trip-ends of which about 60,000 would occur in the p.m. peak hour. Table 2 shows a comparison of the projections of travel demand from the list-based analysis and from the Downtown Plan EIR for the year 2000. While the list contains development both inside and outside the C-3 District, the Downtown Plan EIR makes specific projections only for C-3 District development, and the travel components shown in Table 2 are for the C-3 District only; therefore, for purposes of comparison, travel from the C-3 component of the list (about 14.4 million gross sq. ft. of net new office space and 0.7 million gross sq. ft. of retail space) has been analyzed for comparison with the projections from the Downtown Plan EIR for Alternatives 1 to 5 and the Downtown Plan. The impact analysis (see pages 36-40) has considered the total amount of development (both C-3 and non C-3) on the Cumulative List.

Comparison of Methodologies

Several anomalies are apparent in the data shown in Table 2. The major anomaly is that, while the C-3 component of the list would generate about one-half as much travel as do the Downtown Plan and the five Alternatives, the list-based analysis projected travel demands within San Francisco (inside and outside the C-3 District) that exceed those generated by the Downtown Plan and the Alternatives. An explanation of this major anomaly is presented in the following paragraphs.

The difference in total travel results, in part, from the different time frames of the list and the Downtown Plan EIR. The Downtown Plan EIR established 1984 as the baseline year and 1990 and 2000 as target study years. Estimates of growth were made on the basis of projections for each of the target years for the range of alternatives. In contrast, the projects included on the Cumulative List span a period from 1984 to sometime in the mid-1990s when completion and occupancy of all projects on the list or a similar amount of square footage would be expected.[7] This is one of the major reasons why results of impact analyses using these two forecasting methods are not directly comparable.

The variations in travel by trip purpose (work, other) and by travel mode (as shown in Table 2) between the list-based method and the Downtown Plan EIR method can be explained by differences in the methodologies and data bases used to forecast the travel demand. The list-based analysis employs single-use trip generation data to estimate total travel through the process of adding the trip generation estimates from all the individual buildings on the list. These single-use trip generation rates do not incorporate any discounting factors to account for trips going from one building to another within the downtown. Studies for the Downtown Plan EIR have confirmed that there is considerable travel between land uses in the downtown area. Thus, the list-based analysis adds each trip as if it were a new trip in or out of downtown and overestimates the total number of peak-hour trips.

The Downtown Plan EIR travel demand model has refined the trip generation process by incorporating discounting factors that adjust the trip generation rates to give travel to and from the C-3 District as a whole; it does not include trips internal to the C-3 District.

Although the Downtown Plan EIR process projects proportionately more work travel than does the list-based analysis, observations show that the Downtown Plan EIR forecasts more closely resemble actual travel demand that would result from downtown development.

The differences in distribution of travel among modes (shown in Table 2) are the product of refinements in the regional distribution and modal split analyses in the Downtown Plan EIR process. The list-based analysis assumes a static (unchanging over time) regional distribution and static modal splits. The Downtown Plan EIR analysis has incorporated changes in both the regional trip distribution (reflecting projected availability of housing) and modal splits (reflecting projected availability of roadway and transit capacity in the future).

The list-based analysis yields more San Francisco travel (as shown by larger Muni numbers for the list-based analysis in Table 2) than does the Downtown Plan EIR analysis, because the Downtown Plan EIR analysis projects a declining availability of housing in the City. The distribution of downtown workers by county of residence throughout the region (the residence patterns for downtown workers) was an input to the transportation analysis using both the list-based approach and the Downtown Plan EIR approach. Under the list-based approach where residence patterns are derived directly from the results of the 1982 C-3 District Employee Survey, the percentage of the downtown workforce residing in San Francisco is assumed to remain constant over time. Implicitly, this assumes that, in the future, employment, housing, and the employed population in San Francisco relative to the rest of the region continue to reflect the current pattern. On the other hand, the Downtown Plan EIR forecast approach accounts for changes over time in the relative availability of housing and labor force throughout the region.

Under the Downtown Plan EIR forecasts, the percentage of downtown workers residing in San Francisco declines over time. The basic assumption is that employment growth in San Francisco will exceed the growth of the City's employed population and that the growth of the City's employed population will not be proportional to the growth of the labor force residing elsewhere in the region. In other words, in the future, the relative importance to downtown jobs of the region's labor force residing outside of San Francisco will increase.

This is consistent with long-term trends. In the list-based approach, the inherent assumption is that the relative availability of housing throughout the City in the future would reflect current patterns. The residence patterns of downtown workers living in San Francisco using this approach were derived directly from the results of the 1982 C-3 District Employee Survey. On the other hand, the Downtown Plan EIR forecast approach included assumptions about how the relative availability of housing in different City locations would change over time. The residence patterns forecasts for C-3 District workers in the year 2000 which are used in the transportation analysis reflect an assumption is that there would be relatively more housing in the eastern parts of the City (near the downtown) in the future as compared to the current overall distribution. The City's Residence Element identifies opportunities for adding substantial numbers of units in mixed-use projects and redevelopment areas in this part of the City. (See Downtown Plan EIR, page IV.D.60 and note 42.)

Other differences in travel among the modes, particularly regional auto and AC Transit, are the result of the refined modal split process used in the Downtown Plan EIR. As the list-based analysis assumes that modal split remains constant over time, the list-based analysis is insensitive to the abilities of transit agencies and regional roadway systems to serve future demand. The Downtown Plan EIR analysis has assumed that the modal split would change over time in response to the increasing levels of congestion at the regional screenlines (described in the Downtown Plan EIR). Thus, because the Bay Bridge is at or near capacity in the p.m. peak-hour eastbound, the Downtown Plan EIR modal split projects a proportionately lower increase in auto demand to the East Bay than does the list-based analysis. Similarly, for AC Transit the Downtown Plan EIR recognizes that current regional transit policy dictates no increases in AC Transit transbay service and thus, the ability of AC Transit to carry additional riders transbay will be restricted in the future. Use of this changing modal split is a refinement that allows the travel mode to more accurately forecast travel demand and thus, the Downtown Plan EIR results represent a more accurate level of projection than has been possible using methods and data available to date.

Various other factors cause differences in the travel demand projections between the two approaches. The Downtown Plan EIR and the Consultant's Report on Downtown Growth

Management Alternatives (Environmental Science Associates, 1983) contain extensive discussion of the analyses and data used to forecast employment, land use (see sections cited above) and transportation demand (see Section IV.E and Appendix J of those reports).

TRANSIT

The transit agencies serving downtown San Francisco carry approximately 60% of the peak-period employee work travel, as well as about 20% of the peak-period other travel. P.m. peak-hour and peak-period loadings on the local and regional transit routes were found to be near capacity for some of the routes in 1984 (see Table 3). The values shown in Table 3 are sums over the peak-hour and the two-hour peak period. Within the peak hour there would be periods of time when the loading ratios would be higher than those shown for the hour (peak-of-the-peak conditions). Individual transit vehicle loadings vary on a day-to-day basis because of fluctuations in ridership (demand) and because of variations in operating conditions caused by traffic congestion, equipment availability, and/or system breakdowns. Photographic examples of p.m. peak-hour loadings on Muni vehicles are shown in Appendix C, Figure C-1.

Downtown Plan EIR Methodology

The 1981/82 transit ridership and loading data used in the Downtown Plan EIR analysis are summations of actual counts of individual transit lines for that period of time. Calculations are made on the basis of observed operating conditions, as opposed to scheduled operations. Muni supplied the data for the Downtown Plan EIR analysis from its ongoing program of ridership checks. (The data supplied and collected for each transit agency are in the supporting documentation for the Downtown Plan EIR, on file with the Office of Environmental Review, 450 McAllister St., San Francisco, CA.) Muni was involved in the process of verifying the transportation analysis for the Downtown Plan EIR and as a result of that process, approved of the use of Muni data and the projections derived from that data.

The level of service concept, similar to that developed for highway operations, has been applied to both bus and rail transit. Passengers per seat (i.e., total passengers divided by the number of seats) has been used as the measure of effectiveness to define the various

TABLE 3: OUTBOUND REGIONAL TRANSIT DEMAND AND LEVEL OF SERVICE

Transit Agency	1984 Riders	1984 P/S[1]	1984 LOS[2]	1990 (Downtown Plan EIR) Demand	1990 P/S	1990 LOS	1984+CUMULATIVE LIST (Using 1990 Capacity) Demand	1984+CUMULATIVE LIST P/S	1984+CUMULATIVE LIST LOS	2000 (Downtown Plan EIR) Demand	2000 P/S	2000 LOS	Project Percent[3]	1984 + CUMULATIVE LIST (Using 2000 Capacity) Rounded Demand	P/S	LOS	Project Percent[3]
P.M. Peak Hour																	
Muni																	
Northeast	7,100	1.16	D	7,900	1.13	D	8,600	1.23	D	8,800	1.05	D	0.6	8,600	1.03	D	0.6
Northwest	8,200	1.26	E	9,200	1.26	E	13,500	1.85	F	10,100	1.25	D	1.2	13,500	1.67	F	0.9
Southwest	13,500	1.45	E	15,100	1.44	E	17,900	1.71	F	16,600	1.42	E	0.6	17,900	1.53	F	0.6
Southeast	5,300	1.06	D	6,200	1.03	D	6,500	1.08	D	7,400	1.01	D	0.3	6,500	0.89	C	0.4
BART																	
Transbay	16,100	1.53	F	20,500	1.42	E	22,200	1.54	F	27,900	1.42	E	0.8	22,200	1.13	D	0.9
Westbay	7,700	1.10	D	8,800	1.26	D	10,100	1.45	E	10,100	1.06	D	0.8	10,100	1.06	D	0.8
AC Transit	9,100	0.94	C	10,500	1.08	D	11,800	1.21	D	10,500	1.08	D	0.7	11,800	1.21	D	0.6
GGT Bus	5,300	1.00	C	6,600	0.86	C	6,800	0.89	C	8,500	0.91	C	0.7	6,800	0.73	B	0.9
GGT Ferry	800	0.57	B	1,100	0.28	A	1,200	0.31	A	1,500	0.38	A	0.7	1,200	0.30	A	0.9
Tiburon Ferry	200	0.40	A	200	0.40	A	200	0.40	A	300	0.60	B	--	200	0.40	A	--
SamTrans	1,900	1.12	D	2,400	1.20	D	2,400	1.20	D	3,100	1.19	D	0.7	2,400	0.92	C	0.9
CalTrain	3,100	0.61	B	4,000	0.65	B	3,800	0.62	B	4,900	0.79	C	0.8	3,800	0.61	B	1.0
P.M. Peak Period																	
Muni																	
Northeast	12,600	1.06	D	13,900	1.01	D	15,300	1.11	D	15,500	0.95	C	0.7	15,300	0.94	C	0.7
Northwest	13,100	1.13	D	14,100	1.07	D	21,400	1.62	F	15,300	1.05	D	1.2	21,400	1.47	E	0.9
Southwest	23,300	1.31	E	26,000	1.29	E	30,300	1.50	E	28,700	1.29	E	0.7	30,300	1.36	E	0.7
Southeast	9,100	1.00	C	10,300	0.95	C	11,100	1.02	D	12,100	0.88	C	0.4	11,100	0.81	C	0.5
BART																	
Eastbay	25,800	1.54	F	32,600	1.42	E	35,400	1.54	F	44,100	1.40	E	0.7	35,400	1.12	D	1.0
Westbay	11,300	0.80	C	12,800	0.91	C	15,000	1.07	D	14,600	0.77	C	0.8	15,000	0.79	C	0.8
AC Transit	14,000	0.95	C	17,000	1.16	D	18,200	1.24	D	17,000	1.16	D	0.7	18,200	1.24	D	0.6
GGT Bus	7,600	0.90	C	9,500	0.77	C	10,000	0.81	C	12,200	0.81	C	0.8	10,000	0.66	B	0.9
GGT Ferry	1,000	0.56	B	1,400	0.27	A	1,700	0.33	A	1,700	0.33	A	0.8	1,700	0.33	A	0.8
Tiburon Ferry	300	0.60	B	400	0.80	C	400	0.90	C	500	1.00	C	--	400	0.80	C	--
SamTrans	2,900	1.12	D	3,400	1.13	D	3,600	1.20	D	4,500	1.15	D	0.9	3,600	0.92	C	1.1
CalTrain (SPRR)	4,500	0.68	B	5,200	0.64	B	5,600	0.69	B	6,200	0.77	C	0.7	5,600	0.70	B	0.8

[1] Passengers per seat is the ratio of total demand to seated capacity.

[2] Level of service is scale ranging from A to F that relates P/S ratios to passenger loading conditions on transit vehicles (see Table C-1, Appendix C).

[3] The percent of demand generated by the project.

Source: Environmental Science Associates, Inc. and EIP Associates

level of service ranges. Table C-1, Appendix C, shows the relationship between level of service and passengers-per-seat (P/S) ratios for bus transit systems.

During the p.m. peak hour in 1984, all of the transit agencies were found to be operating in Level of Service D or better, with the exception of BART Transbay, where conditions were found to be at Level of Service F, and Muni in the northwest and southwest corridors, where operations were found to be in Level of Service E. Although BART is a rail transit service, its cars have a unique seating configuration. The ratio of total capacity to seated capacity for a BART car (about 1.5) is equivalent to the ratio for bus transit, thus the bus transit level of service scale is applicable to BART. Level of Service F ("crush" or "jammed" loadings) on BART is in the range of 1.5 to 1.8 passengers per seat. Because BART operates on a centrally controlled system, the "crush" loadings would not increase passenger loading times (which causes deterioration of service) as would be the case on a bus transit system; rather, the effects of "crush" loadings on BART would be reflected in increased passenger discomfort.

The rail transit level of service scale is based on typical light rail transit systems for which total capacity is about 2.0 to 2.2 times seated capacity. The rail transit level of service scale would be applicable to Muni Metro, which provides about 50% of the seated capacity to the southwest corridor. Because Metro vehicles can accommodate higher loadings (a ratio of 2.0 passengers per seat) than buses or trolleys (a 1.5 ratio), the level of service would be somewhat better than shown in Table 3. An exact estimate of Metro loadings is not possible without analysis of the Metro service separate from the remainder of Muni service to the southwest; such analysis would be beyond the ability of the travel demand analysis to predict accurately over time, as discussed in the following paragraphs.

With regard to the Muni data presented in Table 3, the Muni routes have been aggregated on a corridor basis and thus include two-directional travel on some routes that serve the northeast and southeast corridors. The EIR uses the corridor-based analysis because it is not possible to predict accurately which individual transit lines future riders would use, only which corridor they would use. Additionally, it can be assumed that if a rider desired to take one line that was operating at or above capacity, he/she might switch to another line, within the same corridor, that was operating below capacity. Therefore, the

corridor-based analysis gives a more accurate prediction of overall Muni operations than would a line-by-line analysis. As described on page IV.E.9 of the Downtown Plan EIR, aggregation of line-by-line data may slightly distort overall ridership conditions. The Muni numbers cannot be added over the corridors to get a total for the system.

Neither can capacity be shifted from one corridor to another. For instance, capacity in the northeast corridor depends, in large part, on capacity that serves the southeast portion of the City. The 15, 19, 30, 30X, 30AX, 30BX, 32, 41, 42, and 47 lines pass through the downtown in two directions. Service on the above lines is interdependent. Thus, increases or decreases in capacity on one of the above lines directly affect service in the opposite direction. Service to the northeast and northwest corridors is also interconnected, as lines serving the northwest must pass through the northeast corridor, and thus serve both areas. Muni ridership and capacity have been apportioned between both areas.

Passengers-per-seat ratios are only one measure of adequacy of service. The constraints of operating on heavily used streets in and around the downtown cause transit-vehicle bunching, loss of running time and missed schedules, all of which reduce service, reliability, and ultimately, capacity. In some respects, this would not be evident from simple quantitative analysis. In addition to these inefficiencies inherent within the transportation system, there are other factors which would affect overall transit capacities. These include variability in daily and seasonal ridership for which an absolute capacity must be available, as well as transit riders who remain uncounted because their transit trips both start and end beyond the screenlines used in this analysis. Daily fluctuations in fleet availability also affect system capacity.

Further, policy considerations dictate minimum operating conditions on certain lines; minimum headways that have been established to maintain transit access to areas served by those lines are not warranted on the basis of ridership alone. When averaged together, the ridership data from these lines may slightly distort overall ridership conditions.

P.m. peak-period conditions on transit in 1984 were found to be equivalent to or better than peak-hour conditions. In some cases, where demand remains at peak-hour levels

during the two-hour period, the passengers-per-seat ratios in the two-hour period are higher than in the one-hour period. This anomaly is the result of transit agencies' providing express (or additional) service during the peak hour, but not during the entire peak period. An example of this type of operation may be seen on BART, where three extra trains operate in transbay service in the peak hour but not in the peak period. Another factor involved is the distribution of demand (ridership) at uniformly high levels over the peak period.

Both transit demand and capacity have been assumed to increase during the period 1984 to 2000. The discussions of transit capacity increases for the agencies are based on the Five-Year Plans and Capital Improvement Plans of the various transit agencies; they appear in Appendix J of the Downtown Plan EIR, pp. J.25-J.26. This material, which is discussed below and summarized in Table 3, is incorporated by reference.[8] The future capacities were developed by applying percentage increases, expected in the future, to observed existing capacity. Thus, to the extent that the existing conditions contain inherent capacity reduction for missed runs, the future capacity projections have taken into account the inability of the transit systems to provide 100% of scheduled capacity. As noted above, the Muni analysis calculates capacity on the basis of all runs leaving the C-3 District in the p.m. peak. For all of the transit analyses, only peak-direction vehicles are counted.

Future transit demand and loadings under the Downtown Plan EIR in the year 2000 and for 1984-plus-the-Cumulative-List condition are shown in Table 3 for both the peak hour and the peak period. The total transit demand from the project would represent about 0.1% of the total travel demand on the transit carriers in the year 2000.

Peak-hour transit demand on Muni in the year 2000 would increase about 25% over 1984 levels in the northeast, northwest and southwest corridors. Muni demand in the southeast corridor would increase about 40% between 1984 and 2000. Peak-hour demand on the other agencies would increase between 30% and 70% during the period 1984 to 2000.

Peak-period increases in demand would be between 15% and 70% from 1984 to 2000. Overall peak-period transit travel would be expected to increase about 30% between 1984

and 2000. Peak-hour and peak-period passenger loadings would be worse than in 1984, although most systems would operate in acceptable conditions (Level of Service D or better). However, BART Eastbay and Muni to the southwest would be in Level of Service E during the peak hour and the peak period.

Although the data in Table 3 are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. As shown in Table 2, total transit demand under Alternative 1 would be about 12% higher than under the Downtown Plan, while transit demand from Alternative 4 would be about 9% lower than the Plan. As noted previously, these differences would not be statistically significant. In terms of Level of Service, the Downtown Plan would be equivalent to the five Alternatives.

It is important to note that the Five-Year Plan improvements for the transit systems are designed both to provide for future demand increases and to improve service levels from existing conditions. For new vehicles to expand system capacity rather than represent replacement on a one-to-one basis, operating revenues would similarly need to be increased. During the year 2000 peak hour, Muni service to the southwest would exceed the desirable passengers per seat ratio of 1.25.[9] Although the transit demand in the corridor in excess of the desirable loading would be able to be accommodated under crowded conditions and thus would not be excess demand (that is, not beyond capacity), demand in excess of the desirable loading would mean that additional transit service (beyond that assumed to occur by 2000) would need to be provided to allow transit operations in the corridor to meet the goals set by Muni. To meet the goal of 1.25 passengers per seat in the peak hour, Muni would have to increase service by about 14% in the southwest corridor over the amount of service assumed to occur in 2000.

If transit service were not increased beyond the amounts assumed to occur by the year 2000 in the Downtown Plan EIR, transit operations (in terms of passenger comfort) would be slightly better than 1984 conditions. Peak-hour and peak-period passengers-per-seat ratios would be lower than 1984 ratios even though service (in some corridors) has been assumed to increase as much as 80% between 1984 and 2000.

If the Downtown Plan's goals regarding increased transit use were achieved and the proposals in the Plan regarding transit service improvements were to be fully developed and in place, the impacts on transit agencies would be less than described above. If the goals were achieved, transit agencies would experience greater levels of demand than under this analysis but overall passenger loadings would be lower (and within desirable levels) because of increased transit service availability that would come about if the proposals stated in the Plan were developed. Section VI., Mitigation, contains measures that would provide the additional transit service required to mitigate the above impacts.

List-Based Analysis

Also shown in Table 3 is an independent analysis of the conditions that would result from adding the travel from the Cumulative List to the 1984 base data, as is specified in the Transportation Guidelines. The transit demand expected from the projects on the list has been compared both to projected 1990 capacity conditions and to year 2000 capacity conditions. The primary reason for providing both sets of analyses is that there are no available projections of transit system capacities for the mid-1990s, when buildout and absorption of the list projects are expected. Thus, the data in the "Cumulative List + 1984" columns are intended to describe the foreseeable range of transit impacts under the list-based analysis.

Data derived from year 2000 capacity figures are considered to be a more realistic representation of future impacts than those derived from 1990 capacity figures for several reasons. First, the capacity projections for the year 2000 are conservative ones; transit agency plans for capacity increases that were determined to be somewhat more speculative were not included in assumed capacities. Second, as explained above, the list-based method utilizes single-use trip generation rates, thereby adding each trip as if it were a new trip in or out of the downtown. Consequently, the total number of peak-hour trips are overestimated under this method. Thus, while the column which presents the impacts of the list-based transit demand in relation to year 2000 capacity projections may slightly understate actual impacts, that assessment is considered to be more accurate than the impact assessment using 1990 capacity projections due to the fact that capacity projections are conservative and demand projections are overstated.

In addition, it should be noted that the results of the transit impact analyses using the 1990 and year 2000 capacity projection assumptions do not differ significantly. Assuming year 2000 capacities, only two Muni corridors would not meet "acceptable" loadings. This is also true assuming 1990 capacities, with the exception that BART transbay would slightly exceed BART's "acceptable" loadings of 1.5 passengers per seat.

The project travel would represent about 0.2% of the total travel on transit in the 1984-plus-the-Cumulative-List condition.[10] As noted above, the list-based analysis overestimates the component of travel from San Francisco, as is shown in Table 3 by higher P/S ratios for Muni in the northwest and southwest corridors and lower P/S ratios for BART Transbay, SamTrans, and CalTrain than under the Downtown Plan EIR method. Under the 1984-plus-the-Cumulative-List conditions, Muni would not meet its service goals in the northwest and southwest corridors; this would require additional service increases of 27% and 20%, respectively, to meet Muni's goal of 1.25 passengers-per-seat in the peak hour. The other transit agencies would meet their service goals under these conditions.

PEDESTRIAN MOVEMENTS

The primary pedestrian entrance to the project is on Market Street; it provides access to the building lobby and elevators that service the upper-floor offices. Ground floor retail space is accessed from the building lobby. A second pedestrian entrance is provided to Stevenson Street. The project at full occupancy would generate about 130 pedestrian trips during the peak noon hour and about 100 pedestrian trips during the p.m. peak hour.

Operating conditions on sidewalks and crosswalks have been categorized into a Pedestrian Flow Regimen, which relates density of pedestrians in a specific time period (pedestrians per foot of clear sidewalk width per minute) to quality of pedestrian flow (the difficulty of maintaining walking paths and speeds on a sidewalk).[11] Table C-2, Appendix C of this report, shows the relationships among flow rates, walking speed, path choice, and interactions between pedestrians for each flow regime. Figure C-2, Appendix C of this report, shows photographs of sidewalk conditions for each flow regime. Typically, an upper limit for desirable conditions is 14 pedestrians per foot per minute (p/f/m), defined as crowded; conditions as high as 18 p/f/m, a congested condition, are possible, with some conflicts among pedestrians.[11]

Table 4 compares existing pedestrian flows with predicted pedestrian volumes on Market Street in the year 2000. The Market Street sidewalk currently operates in unimpeded conditions during the noon peak hour and in open conditions during the p.m.-peak hour.

In the year 2000 pedestrian conditions would remain unimpeded during the noon peak and would shift from open to unimpeded during the p.m. peak-hour. The project-generated pedestrian traffic would represent an increase in sidewalk traffic of about 32% during the noon peak and 40% during the p.m. peak.

Although the data in Table 4 are calculated on the basis of projections for the Downtown Plan, similar conditions would be expected under the five Alternatives in the Downtown Plan EIR. Pedestrian travel demand, although not shown in Table 2, is closely related to total travel demand because the majority of trips on the primary modes shown in Table 2 begin or end as pedestrian trips at a building. Total travel demand for Alternative 1 would be about 17% higher than that under the Downtown Plan, while that under Alternative 4 would be about 5% lower than that under the Plan. The range among the Alternatives would not change the flow regimen shown in Table 4.

Also shown in Table 4 are the results of adding travel from the Cumulative List to the 1984 base data. Under the list-based analysis, conditions on Market Street would remain in the unimpeded range during the noon peak hour and shift from open to unimpeded during the p.m. peak-hour. The project would represent about a 30% of the increase in the noon sidewalk traffic and a 39% increase in the p.m. peak-hour traffic. These results are similar to those using the Downtown Plan methodology.

TABLE 4: PEAK PEDESTRIAN VOLUMES AND FLOW REGIMEN

	Existing[1]		2000			1984 + CUMULATIVE LIST		
	p/f/m[2]	Flow Regimen[3]	p/f/m	Flow Regimen	Project Percent of Increase	p/f/m	Flow Regimen	Project Percent of Increase
NOON PEAK[3]								
Market Street Sidewalk	0.7	Unimpeded	1.3	Unimpeded	32	1.36	Unimpeded	30
P.M. PEAK								
Market Street Sidewalk	0.38	Open	0.8	Unimpeded	40	.83	Unimpeded	39

[1]Counts conducted by EIP Associates April 1, 1985.

[2]Pedestrians per foot of effective sidewalk width per minute.

[3]See Table C-2 and Figure C-2 (Appendix C) for desicriptions of pedestrian flow regimen.

[4]-Year 2000 impacts are calculated according to Downtown Plan EIR methodology.

Source: EIP Associates.

TRAFFIC

The analysis of traffic impacts has been conducted on two levels; one level of analysis considered impacts at the regional screenlines, the second level of analysis considered impacts at intersections in and near the downtown.

Regional Freeway Analysis

Analysis of traffic conditions at the regional screenlines has been conducted for both the p.m. peak hour and the two-hour p.m. peak period. A.m. peak traffic conditions at the regional screenlines have the effect of regulating the amount of traffic that reaches the downtown from outside of the City. This analysis has therefore considered p.m. peak conditions. P.m. conditions are usually most severe on both freeways and streets within San Francisco, whereas a.m. peak-conditions are most severe at locations outside of the City.

Traffic demands at the regional screenlines in 1984 (see Table 5) during the p.m. peak-hour were found to use between 90% and 100% of the available capacity on the freeways and bridges. Although the eastbound capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour volume shown in Table 5 represents the effective eastbound capacity. The volume figures shown in Table 5 for 1984 for the one-hour and two-hour periods are averages of several days; thus, values for individual days may be different from the average.

Peak-hour freeway operating conditions in 1984 were found to be generally in Level of Service D to E conditions, which would indicate unstable flows in the 35 mph to 45 mph range. Table C-4, Appendix C, shows the Level of Service for freeway operations. Peak-of-the-peak conditions within the peak hour were found to be worse than the hourly conditions because of surges in traffic demand during the peak hour. Conditions during the peak-period at the screenlines were found to be similar to those experienced during the peak-hour.

As shown in Table 5, demand during the peak hour in the East Bay and Peninsula corridors would be expected to increase about 15% between 1984 and 2000. Peak-hour demand in

TABLE 5: OUTBOUND REGIONAL AUTO DEMAND

Regional Auto Corridor	1984 Capacity[1]	1984 Volume[2]	2000 Demand	2000 Project Percent	1984 + CUMULATIVE LIST Demand	1984 + CUMULATIVE LIST Project Percent
P.M. Peak Hour						
Bay Bridge (I-80)	9,000	8,540	9,790	0.1	10,400	0.1
Golden Gate Bridge (US-101)	7,200	6,740	7,150	0.1	7,600	0.1
US-101 (south of Harney Way)	8,000	7,390	8,400	0.1	8,300	0.1
I-280 (between Alemany Blvd. and San Jose Avenue)	8,000	7,610	8,650	0.1	8,500	0.1
P.M. Peak Period						
Bay Bridge (I-80)	18,000	17,880	19,330	0.1	20,900	0.1
Golden Gate Bridge (US-101)	14,400	13,870	14,850	0.1	15,400	0.1
US-101 (south of Harney Way)	16,000	14,200	16,530	--[3]	15,700	0.1
I-280 (between Alemany Blvd. and San Jose Avenue)	16,000	13,620	15,890	--	15,100	0.1

[1] Although the capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour demand shown above represents the effective capacity.

[2] The volumes for 1984 for the one-hour and two-hour periods are averages of several days and, thus, values for individual days may be different than the average.

[3] -- represents less than .05%. Project percents are rounded to the nearest one-tenth of one percent.

Source: EIP Associates.

the North Bay corridor would increase by about six percent between 1984 and 2000. The project travel demand, about 25 p.m. peak-hour and 36 p.m. peak-period outbound vehicle trip-ends, would represent about 0.1% or less of the total demand in each corridor in the year 2000. Both the East Bay and Peninsula corridors would have excess peak-hour demand that would not be met during the peak period.[12] The North Bay corridor would have excess demand in the peak period. Excess auto demand would result in either a spreading of the demand into the hours adjacent to the peak period or in increased transit and ridesharing use should additional transit service (beyond that assumed to occur by the year 2000) or ridesharing incentives be provided.

Operating conditions at the regional screenlines would be at or near capacity in Level of Service E. Traffic flow conditions would be expected to be very unstable and could experience temporary flow interruptions throughout the peak-period. Peak-of-the-peak conditions would be prevalent during the peak hour and might extend into the peak period. The overall two-hour commute period would not be expected to increase substantially in the future. Rather, the occurrence of peak-of-the-peak conditions, now less than one hour, would most likely expand to fill the one-hour peak.

As shown in Table 5, the list-based cumulative analysis, while not comparable to the year 2000 data, produces similar estimates of future demand. The results reflect the tendency of the list-based method to overestimate regional auto travel. The project would represent less than 0.1% of the regional auto demand in this condition. The Bay Bridge and I-280 would have excess demand during the peak hour; the Bay Bridge, the Golden Gate Bridge, and I-280 would have excess demand during the peak period. The same conclusions noted above regarding future operating conditions would apply to this condition as well.

Intersection Analysis

The streets that serve the project as feeders to or from freeway ramps are points of maximum automobile traffic congestion in the Financial and Downtown Districts. Conditions on these streets were assumed to represent the "worst case" or greatest traffic impacts of the project.

Impacts from the project on other streets would be less, because project traffic on them would be more dispersed. Routes of drivers going to garages were assumed to be sufficiently dispersed so that they would have no measurable effect on traffic volumes on the streets adjacent to the project. Project impacts at the intersections closest to the project site would result primarily from service-vehicle and pedestrian traffic. The traffic volumes from the project would not be detectable against the background of future traffic growth from development in the downtown at the intersections adjacent to the project.

Traffic operations at intersections near freeway ramps serving the project site vicinity have been analyzed for traffic impacts. The levels of service for Sixth/Brannan, Fifth/Bryant, and Eight/Bryant are shown in Table 6. The existing level of service for Sixth/Brannan is F, and for Fifth/Bryant and Eighth/Bryant E-F. The volume to capacity ratio for Sixth/Brannan is 1.18. Volume to capacity ratios for Fifth/Bryant and Eighth/Bryant are 0.53 and 0.45 respectively. In general, traffic flows smoothly through the latter two intersections and they would be considered at service level A. But due to backups on the freeway, the on-ramps become congested and traffic backs into the intersection inhibiting turning movements onto the ramp. Therefore the level of service is considered to be E-F. Level of Service descriptions are shown in Table C-3, Appendix C.

TABLE 6: PROJECTED P.M. PEAK-HOUR INTERSECTION VOLUME-TO-CAPACITY RATIOS (V/C) AND LEVELS OF SERVICE (LOS)[1]

	Existing		2000		1984 + CUMULATIVE LIST	
Intersection	V/C	LOS	V/C	LOS	V/C	LOS
Sixth & Brannan[2]	1.18	F	1.41	F	1.32	F
Fifth & Bryant[3]	.53	E-F	.63	E-F	.59	E-F
Eighth & Bryant[3]	.45	E-F	.54	E-F	.54	E-F

[1]Level of Service descriptions and relationship to V/C ratios are shown in Table C-3, Appendix C of this report.

[2]Downtown Plan EIR certified October 18, 1984.

[3]Counts by EIP Associates March 7, 1985.
Source: EIP Associates.

Peak-hour conditions would be expected to deteriorate at all of the intersections by the year 2000. Expanded areas of traffic congestion would disrupt surface Muni operations. If the mitigation measures for transportation are implemented, the intersection operating conditions would be improved.

As shown in Table 6, the list-based analysis yields similar Level of Service intersection conditions compared to those for the year 2000. While similar to the results of the Downtown Plan EIR, the list-based results are not directly comparable for the reasons stated above.

Although the traffic data shown in Table 5 and used to calculate the v/c ratios in Table 6 are calculated on the basis of projections for the Downtown Plan, similar traffic data would be expected under the five Alternatives in the Downtown Plan EIR. As shown in Table 2, regional traffic demand under Alternative 1 would be about 34% higher than under the Downtown Plan while regional traffic demand from Alternative 4 would be about 13% lower than under the Plan. In terms of Level of Service, the Alternatives would be equivalent to the Downtown Plan.

PARKING

The estimated parking demand (both long-term and short-term) from the C-3 District in 1984 was found to be about 45,300 spaces, which would occupy about 94% of the 48,000 parking spaces in and near the C-3 District.[13] The short-term parking demand, while representing about 25% of the equivalent daily demand, is about 65% of the daily vehicle travel. Although the equivalent daily demand would leave about 10% of the parking supply vacant, surges in short-term demand (more travel in one period than in another period) can cause temporary localized overloads of parking facilities within various portions of the downtown, even though parking may be available elsewhere in the downtown.

The project does not provide any on-site parking. At full occupancy, the project would create a long-term parking demand of 72 spaces and short-term demand of 18 spaces, for a total demand of about 90 equivalent daily spaces. Therefore, there would be an on-site deficit of 90 spaces.[14] Parking demand generated by the project would be added to the facilities in the surrounding area.

The Downtown Plan EIR estimates that the C-3 District would generate demand for approximately 58,000 equivalent daily parking spaces in the year 2000 under the Downtown Plan, an increase of 28% from 1984. Short-term demand would continue to represent about 25% of the total demand. The project parking demand would represent less than 0.2% of the total demand from the C-3 District. The parking supply has been assumed to be about 51,000 spaces. There would be a parking deficit of about 7,000 spaces in the year 2000 if vehicular demand occurs as projected. However, as shown in Table 5, the analysis for the year 2000 forecasts excess auto demand in the peak hour and the peak period. If the excess demand is accommodated on transit or ridesharing, then the overall parking demand would decrease from the above estimate by about 2,300 spaces. If the Goals of the Downtown Plan are met, total parking demand in the year 2000 would be about 48,100 equivalent daily spaces, an increase of six percent over 1984. If the Goals were achieved, there would not be a parking deficit.

The list-based analysis shows future demand for 9,280 spaces from projects in the C-3 District, which, when added to the 1984 data, would be a total demand of 54,600 spaces. The project parking demand would represent about 0.2% of the total demand. While similar to the 58,000 space (unmitigated) demand for the year 2000, the list-based demand is not comparable for the reasons stated above, in particular because the list-based analysis assumes a static modal split and thus overestimates future auto demand.

---

[1] San Francisco Department of City Planning, Transportation Guidelines for Environmental Impact Review: Transportation Impacts, September 1983. This document describes the procedure used to calculate travel demand from the project. Trip generation rates of 18.1 person trip-ends (pte) per 1,000 gross sq. ft. (gsf) of office space and 150 pte per 1,000 gsf of retail space were used to estimate travel from the project. The trip generation rates are for independent land uses. When used to estimate travel from more than one land use on the same site the rates may overestimate total travel to the site since a portion of the travel from each of the land uses may occur between land uses on the site and not leave the site. Such trips are referred to as "linked trips". On the basis of the data contained in the March 22, 1985 Cumulative List, the trip generation calculation for the project is as follows: 137,500 gsf office x 0.0181 pte/gsf + 8.000 gsf retail x 0.15 pte/gsf = 3,689 pte per day. The September 1983 Transportation Guidelines are on file and available for public review at the Office of Environmental Review, 450 McAllister Street, San Francisco, CA.

[2]The percentage of travel occurring in the peak period and the peak hour are from the Transportation Guidelines (see Note [1]). Total travel during each of the periods has been adjusted to show only outbound (leaving the downtown area) travel. The outbound travel consists of all of the work-related travel and half of the other (non-work) travel from the project.

[3]San Francisco Department of City Planning, Office of Environmental Review, Environmental Impact Report for The Downtown Plan, EE81.3, certified October 18, 1984. This document is an analysis of projected growth in the C-3 District to the year 2000 under the Downtown Plan and five alternatives. The transportation analysis in the Downtown Plan EIR includes projections of future modal splits for work and other (non-work) travel for the p.m. peak period, p.m. peak hour, and daily time periods. That document is on file with and available for public review at the Department of City Planning, 450 McAllister Street, San Francisco, CA.

[4]The Downtown Plan EIR contains about 50 pages of text devoted to the description of transportation impacts in the greater downtown area, as well as an additional 30 pages of text describing transportation mitigation measures. The information in this Supplemental EIR is not intended to be a comprehensive summary of the transportation analysis in the Downtown Plan EIR, but rather summarizes portions relevant to the project and its contribution to cumulative impacts. For details and assumptions used to arrive at the data and results presented in the Downtown Plan EIR, see Section IV.E, Transportation Setting and Impact, Section V.E, Transportation Mitigation, and Appendix J, Transportation and Circulation Analyses and Methodologies, of the Downtown Plan EIR, which are incorporated by reference into this report and summarized in the text as appropriate.

[5]Data are from Traffic Survey Service A-48 and MA-60, Spring 1977 and Spring 1983, Metropolitan Transportation Commission.

[6]The analysis of historic trends in travel patterns is from the following sources: Metropolitan Transportation Commission, Travel Observations of the Bay Bridge Corridor, October 21, 1981. Homburger and Dock, Trends in Traffic Patterns at the Bay Bridge and Caldecott Tunnel, U.S. Department of Transportation, DOT-BIP-WP-32-3-77, July 1977; telephone survey of 500 drivers conducted in April 1980 by Golden Gate Transit, data supplied by Alan Zahradnik, Transportation Planner, on February 16, 1983; Office of the Auditor-Controller, Comparative Record of Traffic for the Month of November, May 27, 1937 through November 30, 1982, Golden Gate Bridge, Highway and Transportation District; San Francisco Municipal Railway Planning Division, Projections of Future Muni Demand and Vehicle Requirements, October 1982; San Mateo County Transit District, SamTrans Five-Year Transportation Development Plan 1983-1988, April 1983; California Department of Transportation, CalTrain Caltrans/Southern Pacific Peninsula Train Service Five-Year Plan 1983-1988, July 1983; and traffic volume counts from San Francisco Department of Public Works, Bureau of Engineering, Division of Traffic Engineering and from 1983 San Francisco Cordon Count, JHK and Associates, July 1983.

[7]See Downtown Plan EIR, pp. II.9-II.11, for a comparison of the cumulative list projections with those of the Downtown Plan EIR.

[8]Projections of transit capacity improvements were developed for the years 1990 and 2000. These projections were used for purposes of assessing the impacts of the additional demand for transit service projected to occur in the years 1990 and 2000, under the Downtown Plan EIR methodology, and by the mid-1990s, using the List-based methodology.

[9]San Francisco Municipal Railway, Short-Range Transit Plan 1983-1988, July 1983. Bay Area Rapid Transit District, Short Range Transit Plan for the Five-Year Period July 1983 Through June 1988, August 1983.

[10]The project's percent of total travel on transit under the list-based approach was calculated assuming the distribution of net new project person trips outbound during the p.m. peak period as set forth in Table 1. Assignment to travel modes for the project in that table were made on the basis of modal splits assumed in the Downton Plan EIR for the year 2000. As explained in the text, the list-based approach of analyzing cumulative impacts assumes a different modal split than that assumed for the Downtown Plan EIR. The result of cumulative transit demand is slightly higher and the percentage of traffic demand slightly lower, than would have been the case had the Downtown Plan EIR assumptions regarding modal split not been used to determine distribution of new person trips.

[11]Pushkarev and Zupan, Urban Space for Pedestrians, MIT Press, 1985, p. 85-117.

[12]Table IV.E.4, p. IV.E.36, of the Downtown Plan EIR contains a discussion of the implications of excess demand at the regional screenlines.

[13]The parking survey data and other supporting calculations and data used in the Downtown Plan EIR transportation impact analysis are on file and available for public review at the Office of Environmental Review, Department of City Planning, 450 McAllister Street, San Francisco, CA.

[14]1040 daily work trips x 22% auto/1.6 persons per auto /2 one-way trips per auto = 72 long-term parking spaces.

2640 daily non-work trips x 10% auto /1.3 persons per auto /2 one-way trips per auto /5.5 turnovers daily = 18 short-term parking spaces.

Total project demand = 90.

C. AIR QUALITY

Projected daily emissions of pollutants from project-generated traffic, and from cumulative development traffic (based on the March 22, 1985 list of Cumulative Office Development in Downtown San Francisco), are shown in Table 7, page 72. Table 7 also shows projected daily emissions in 1990 and 2000 for C-3 District development projected by the Downtown Plan EIR (EE81.3, certified October 18, 1984), and total emissions projected for the entire Bay Area by the 1982 Bay Area Air Quality Plan. The project would contribute about 0.7% to the total air pollutant emissions generated by cumulative list projects and two percent to the total emissions generated by downtown development in 1990, as projected by the Downtown Plan EIR.

Alternative 1 to the Downtown Plan (covered in the Downtown Plan EIR) would generate about 38% more emissions in 2000 (from development between 1990 and 2000) than would the Downtown Plan. Alternative 4 would generate about seven percent less emissions than would the Downtown Plan. Emissions generated by Alternatives 2, 3 and 5 would fall within this range. The types of air quality impacts under these alternatives would be the same as those under the Downtown Plan; their magnitude would vary in proportion to the differences in their emissions.[1]

Nitrogen oxides (NOx) and hydrocarbons (HC) are both chemical precursors of ozone. Motor vehicles emit more NOx than HC, and the emissions from building natural gas combustion would consist primarily of NOx. As demonstrated by the LIRAQ (Livermore Regional Air Quality model) regional ozone computer simulations performed for the 1982 Bay Area Air Quality Plan, an increase in the future NOx emissions compared to HC emissions would lead to a decrease in ozone compared to present levels. This model has also shown that Bay Area ozone concentrations are expected to be within the federal standard in 1987, and thereafter. As the future NOx emissions from cumulative development in San Francisco would exceed future HC emissions, this development would not lead to an increase in total Bay Area ozone concentrations. This relationship between NOx and HC emissions would hold both under the cumulative list scenario and the Downtown Plan scenario shown.

TABLE 7

PROJECTED DAILY POLLUTANT EMISSIONS

	Emissions (tons per day)[1]					
		Cumulative	Downtown Plan[4]		Bay Area[5]	
Pollutant	Project 1990[2]	List 1990[3]	1990	2000	1990	2000
Hydrocarbons	0.01	1.5	0.6	0.6	428	428
Nitrogen Oxides	0.01	1.9	0.8	0.8	558	610
Carbon Monoxide	0.07	18.3	6.8	6.6	1,952	1,883
Particulates	0.01	2.9	1.1	1.3	562	649
Sulfur Oxides	0.001	0.22	0.1	0.1	194	233

[1]Project, Cumulative List, and Downtown Plan emissions calculated using BAAQMD, EMFAC6C vehicular emission factors. Emissions of HC, NOx, and CO include an assumed six minutes of idling time per vehicle trip. Emissions of TSP include dust disturbed from roadway surfaces.

[2]Based upon a weighted daily average of 4,000 miles traveled.

[3]Incremental emissions of downtown-area development are based on list of projected Cumulative Office Development in Downtown San Francisco as of March 22, 1985, (see Appendix B, Table B-2 pp. A-8 - A-11). By the year 2000 a larger portion of the motor vehicle pool will meet federal and state emission standards. Therefore, air quality impacts wre analyzed under the list-based method for the year 1990, as opposd to the year 2000, in order to provide the most conservative assessment even though the impacts would not be fully realized until the mid-1990s.

[4]Incremental emissions of C-3 District development, per the Downtown Plan EIR, Table IV.1.2, p. IV.I.12.

[5]Cumulative total emissions of Bay Area development, per ABAG, BAAQMD, MTC, 1982 Bay Area Air Quality Plan, pp. 42, 53, and 112.

SOURCE: EIP Associates and Downtown Plan EIR

At the same time, total emissions of both NOx and HC are expected to decrease in San Francisco. Total NOx emissions would decrease in San Francisco by about two percent from 1984 to 2000, but would increase in the Bay Area by about five percent from 1984 to 2000. It is possible that excess NOx emissions generated by cumulative development (including the project) could increase ozone and/or nitrogenous oxidant concentrations further downwind, outside the Bay Area. In addition, NOx emissions generated by cumulative development (including the project) throughout the Bay Area could increase acid rain further downwind, outside the Bay Area, though to a relatively small extent due to the magnitude of the increase and to dilution over time and distance.

In 1990 and 2000 (according to the Downtown Plan EIR), area-wide traffic volumes in the downtown area would increase by about 8% and 15%, respectively, over 1984 volumes; average traffic speeds would decrease by about one mph and two mph, respectively, from 1984 speeds. However, in 1990 and 2000 the average vehicle is expected to emit 32% and 43% less carbon monoxide (CO) respectively, than in 1984 due to ongoing state and federal emissions controls.

CO concentrations at 11 representative intersections in the downtown study area, as analyzed in the Downtown Plan EIR, would decrease from 1984 to 1990 and, thereafter, to 2000. CO concentrations at 10 of the 11 intersections would be within the state and federal standards in 1990 and 2000 under the Downtown Plan and the Alternatives. CO concentrations at one intersection (Brannan and Sixth Streets) would continue to exceed the state and federal eight-hour standards both in 1990 and 2000 under the Downtown Plan and the Alternatives. This suggests that additional intersections not selected for analysis in the Downtown Plan EIR might also exceed air quality standards.

Curbside CO concentrations at selected intersections that would be affected by project-generated traffic and by cumulative development traffic (based both on the March 22, 1985 cumulative list and on the Downtown Plan EIR growth projections) were projected for worst-case conditions, and are compared with ambient standards in Table 8, page 74. These projections were calculated using a revised version of the Modified Linear Rollback (MLR) method which was developed for the Downtown Plan EIR.

TABLE 8

EXISTING AND PROJECTED CURBSIDE CARBON MONOXIDE CONCENTRATIONS AT SELECTED INTERSECTIONS

Intersection	Averaging Time	Concentrations (ppm)[1] 1984	Cumulative List 1990[2]	Downtown Plan[3] 1990	Downtown Plan[3] 2000
6th/Brannan	1-hour	18.1	13.3	11.8	10.9
	8-hour	13.4	10.1	10.0	9.2
5th/Bryant[4]	1-hour	16.2	12.4	12.3	11.2
	8-hour	12.5	9.4	9.3	8.4
8th/Bryant[4]	1-hour	17.0	12.7	12.6	10.3
	8-hour	13.4	9.9	9.8	8.8

[1]Calculations for all scenarios were made using a revised version of the Modified Linear Rollback (MLR) method described in the Downtown Plan EIR. Background concentrations were calculated to be 7.4 ppm for one hour and 5.7 ppm for eight hours in 1984, 6.0 ppm for one hour and 4.5 ppm for eight hours in 1990, and 5.7 ppm for one hour and 4.1 ppm for eight hours in 2000. Underlined values are in excess of the state or federal CO standards. The one-hour state standard is 20 ppm, the one-hour federal standard is 35 ppm, and the eight-hour state and federal standards are 9 ppm.

[2]Based on the list of projected Cumulative Office Development in Downtown San Francisco as of March 22, 1985 (see Appendix B, Table B-2, p. A-36). By the year 2000 a larger portion of the motor vehicle pool will meet federal and state emission standards. Therefore, air quality impacts were analyzed under the list-based method for the year 1990, as opposed to the year 2000, in order to provide the most conservative assessment even though the impacts would not be fully realized until the mid-1990s.

[3]Based on the growth forecast methodology contained in the Downtown Plan EIR, Volume 3, Table IV.1.3, p. C&R-I.8.

[4]Includes effect of adjacent elevated freeway.

SOURCE: EIP Associates and Downtown Plan EIR

The results indicate that the state and federal eight-hour CO standards are estimated to be violated under 1984 and 1990 conditions under both the cumulative list and Downtown Plan scenarios at all three intersections studied. In addition, these standards would be violated in 2000 at 6th/Brannan, as noted in the Downtown Plan EIR.

The California State Legislature has mandated a biannual Inspection and Maintenance (I/M) program which applies to most cars and light trucks in California. This program went into operation in March 1984. Vehicles covered by the legislation must undergo a check consisting of a visual inspection of the vehicle's emission control system, measurement of tailpipe emissions while the vehicle is idling and comparison of the measured emissions rates to the allowable limits for the appropriate year of manufacture and model of vehicle. Vehicles must have the required emission control equipment and must meet the specified standards for hydrocarbons and carbon monoxide. If required emissions control equipment is not present it must be installed. If all required equipment is in place but the vehicle's emissions exceed the standards, the owner is required to pay a maximum of $50 for service intended to result in compliance.

An annual I/M program was evaluated in the 1982 Bay Area Air Quality Plan based on the 1979 source inventory. Based on predicted reduction in hydrocarbons and CO of 25% in covered vehicles, a reduction in total motor-vehicle generated CO of about 18% would be expected. The reduction in total regional CO emissions would be about 16%. The reduction in motor-vehicle generated hydrocarbons would be about 17%; the reduction in total regional hydrocarbon emissions would be about 6%. It can be seen from this data that the I/M program is expected to result in reductions in hydrocarbons and CO emissions.

As CO concentrations in downtown San Francisco are almost entirely due to motor vehicles, future CO levels are predicted to be lower than they would be without an I/M program. Thus, actual concentrations are expected to be lower than CO concentration shown in Table 8, and CO and HC emissions shown in Table 7, because the Downtown Plan EIR did not take the I/M program into account.

Emissions of total suspended particulates (TSP) resulting from construction and from vehicle trips generated by the project and cumulative development would increase TSP concentrations, which could increase the frequency of TSP standard violations in San Francisco, with concomitant health effects and reduced visibility.[2]

Emissions of sulfur oxides (SOx) generated by the project and by cumulative development would not bring San Francisco's sulfur dioxide (SO_2) concentrations measurably closer to violating the standard.

The 1982 Bay Area Air Quality Plan contains strategies which consist primarily of HC and CO emission controls on stationary sources and motor vehicles, and transportation improvements, and are aimed at attaining the federal ozone and CO standards. As discussed above, emissions associated with the project and with cumulative downtown development from the cumulative list or under the Downtown Plan are not projected by this EIR or the Downtown Plan EIR to increase ozone concentrations, and thus would not conflict with the objectives of the 1982 Bay Area Air Quality Plan regarding ozone. Cumulative downtown development is projected by the Downtown Plan EIR potentially to result in a violation of the eight-hour CO standard at the Brannan/Sixth intersection analyzed therein. In addition, CO air quality at Bryant/5th and Bryant/8th would violate the eight-hour standard under these growth assumptions. The model used to make the CO projections might not be accurate to within the percentages of the excesses. Therefore, until additional "hotspot" monitoring is performed to validate the model projections, a determination of whether cumulative downtown development would conflict with objectives of the 1982 Bay Area Air Quality Plan regarding CO cannot be made.

The pollutant emissions and CO concentrations shown in Tables 7 and 8 were projected for 1990 on the basis of two different sets of future growth assumptions, with differing results. In one case, a list of specific projects proposed, approved, and under constructions was used (see Appendix B, Table B-2, pp. A-8 through A-11). In the other case the employment growth trend approach of the Downtown Plan EIR was used, and those projections presented. In both cases, the method for air quality analysis was identical. However, the results using projected cumulative development are not directly comparable with those from the Downtown Plan EIR for several reasons.

First, it is reasonable to assume that the projected cumulative development on the list would be completed and the space it provides absorbed sometime between 1990 and 2000, (probably in the mid-1990s), rather than in either of those two analysis years which were used in the Downtown Plan EIR. The pollutant emissions and CO concentrations were calculated for 1990 using the cumulative list, even though those projects are not expected to be completed until the mid-1990s, in order to provide a comparison with the Downtown Plan EIR results. However, this has the effect of artificially increasing the cumulative list results, because average-vehicle emission rates will decline with time, as a result of state and federal controls.

Second, the transportation analysis used for the Downtown Plan EIR differs from that used for the cumulative list, as described in the Transportation section of this report. Briefly, these differences include the fact that a cumulative list-based analysis assumes the same proportion of new employees would commute by private auto as is currently the case. In contrast, the Downtown Plan EIR analysis projects a shift of commuters from driving alone to carpool and transit, because commute routes such as the Bay Bridge are already at or near capacity and could not accommodate all of the vehicles that would be used if the proportion of persons driving alone to work remained constant.

Other reasons for the differences include the use in the cumulative list analysis of a constant regional distribution of trips, whereas the Downtown Plan EIR forecasts a declining percentage of new employees residing in San Francisco, and the lack in the cumulative list approach of discounting factors to account for trips between individual projects within the Downtown. Also the cumulative list applies to the entire downtown area, a larger geographical area than that analyzed in the Downtown Plan EIR, which contains specific forecasts for the C-3 District but also includes consideration of cumulative impacts of development outside the C-3 district.

Thus, total (regional) vehicle miles traveled and the resulting pollutant emissions projected using the cumulative list approach are considered artifically high. On a local intersection basis, traffic volumes and the resulting CO concentrations might or might not be higher with the cumulative list approach, depending on the particular location. This is because the cumulative list method does not distribute traffic on all the same streets in the same proportions as does the Downtown Plan EIR method.

[1]Impacts anticipated from cumulative downtown development have been analyzed in the Downtown Plan Environmental Impact Report (EIR), (EE81.3, certified October 18, 1984). The air quality setting, impacts and alternatives discussion in the Downtown Plan EIR (Vol. 1, pp. IV.I.1-19 and VII.I.1-8; Vol. 2, pp. O.1-9; Vol. 3, part 1, pp. C&R-I, 1-11) is summarized in the text of this EIR and incorporated be reference herein.

[2]State particulate standards were adopted in 1983 to concentrate on fine particulate matter which has been demonstrated to have health implications when inhaled. Until the State adopts a method for monitoring fine particulate matter, it is not possible to determine what proportion of TSP in San Francisco would be subject to review against the new standards, whether new standards would be violated, or what the health implications would be.

D. ENERGY

Pacific Gas and Electric Company supplies energy to San Francisco customers. Electrical energy is generated from various sources of energy including oil, gas, hydroelectric, geothermal, nuclear, wind, cogeneration and solid waste.[1] In future years PG&E expects to generate electricity from these sources and from coal. The proportion of energy generated from oil and gas is expected to decrease by 1990 with corresponding increases in the proportion of energy generated from other sources listed above.[2]

New buildings in San Francisco are required to conform to energy conservation standards specified by Title 24 of the California Administrative Code. The State allows developers to comply with the standards through the component performance standards method which requires the incorporation into a building of a set of specific design features, through the use of nondepletable energy resources, or by demonstrating that the building would consume no more than a specified quantity of energy, expressed as Btu's per square foot per year (energy budget).[3] Documentation showing compliance with these standards is submitted with the application for the building permit and is enforced by the Bureau of Building Inspection.

Estimated total annual project consumption of electricity would be 2.4 million kWh (24.6 Btu) and estimated total annual natural gas consumption for the project would be 18,900 therms (1.9 billion Btu).

Based on the March 22, 1985 list of cumulative office development in downtown San Francisco, yearly estimated electrical consumption for the projected 21.8 million sq. ft. of additional space in the downtown area would be approximately 370 million kWh of power per year (see Appendix B, Table B-2, pp A-8 to A-11 for a list of these projects).[4] Electrical demand from the project would be 0.1% of the demand from cumulative list development.

Projections of electrical use for growth that would occur under the Downtown Plan as analyzed in the Downtown Plan EIR, indicate an increase of about 210 million kWh of electricity per year between 1984 and 1990 as a result of all new development occurring in the C-3 district.[4,5] From the period 1990 to 2000, electrical consumption rates would

increase by about 330 to 350 million kWh per year, or about 120 to 140 million kWh per year more than between 1984 and 1990.[5,6] Electric requirements for development that would occur with the alternatives analyzed in the Downtown Plan EIR would increase between 300 through 500 million kWh per year between 1984 and 2000.[7] Electrical demand from the project would be 1.1% of the demand from Downtown Plan development.

Estimated gas consumption from the 21.8 million square feet of additional space in downtown projected on the basis of the March 22, 1985 list of cumulative office development would be approximately 271 million cubic feet (2.98 million therms) per year. Based on growth estimates contained in the Downtown Plan EIR, between 1984 and 2000 gas consumption will grow by 470 million cu. ft. (about five million therms) per year, of which 210 cu. ft. (about two million therms) per year, would be for office uses.[4,5] Natural gas requirements for development that would occur with the alternatives analyzed in the Downtown Plan EIR would increase between 580 and 810 million cu. ft. (about six to nine million therms) per year between 1984 and 2000.[7] Project demand for natural gas would be 0.1% of the demand for cumulative list development and 0.04% of the demand from Downtown Plan development.

For two reasons, referenced estimates in the Downtown Plan EIR are not directly comparable to those made by applying energy consumption factors to the floor area of projected cumulative development (list method). First, the list-based forecasts estimate energy demand at the time of full buildout and absorption of list projects (mid-1990s) rather than during the 1984-1990 and 1990-2000 time periods as in the Downtown Plan EIR. Second, only about 70% of the projects on the March 22, 1985 list of projected cumulative office development in downtown San Francisco fall within the C-3 District boundary, which means the list method estimates energy consumption for a larger area than the Downtown Plan EIR.

PG&E, in examining its ten-year load growth projections for San Francisco, believes that growth rates of net new office space in the downtown will diminish from the historic figure of 1.5 million sq. ft. per year to between 1 million and 1.2 million sq. ft. per year.[8] According to PG&E, total increased energy demand over the next decade would be approximately 200 million kWh of electricity per year. The PG&E total projection cannot

be compared to the projections in the Downtown Plan EIR because they cover different time periods.[9]

A comparison of the Downtown Plan EIR and PG&E estimates of electricity use between 1990 and 2000 in downtown San Francisco is being prepared by PG&E, to be released in a report later this year. PG&E plans to meet increased San Francisco energy demands to the year 2000 are on pages IV.G.13-14 of the Downtown Plan EIR, which are hereby incorporated by reference. In summary, that material indicates the demand increases in electricity would be met from nuclear sources, oil and gas facilities, hydroelectric and geothermal facilities, and other sources such as cogeneration, wind and imports. PG&E plans to continue receiving most of its natural gas from Canada and Texas under long-term contracts.

---

[1]PG&E Annual Report, San Francisco, CA 1982.

[2]PG&E Annual Report, San Francisco, CA 1981.

[3]State of California Energy Resources Conservation and Development Commission, Conservation Division, Energy Conservation Design Manual for New Nonresidential Buildings, 1984.

[4]Energy consumption factors of 18 kWh sq. ft./year and 11 cu. ft./year (about 12,100 Btu) are based on unpublished data of actual building consumption rates supplied by David Rubin, Department of City Planning, personal communication, April 1984, and include base power consumption of the building core (uses covered by Title 24) and power demands of electric office machines (uses not covered by Title 24).

[5]Downtown Plan EIR, pages IV.G.1-IV.G.17.

[6]The Downtown Plan EIR uses a consumption rate factor of 18 kWh/sq. ft./year from 1984-1990 and 16 kWh/sq. ft./year from 1990-2000. These different factors are due to Title 24 revisions to reduce building energy budget. These new standards would be reflected by lower electrical consumption in buildings occupied after 1990.

[7]Downtown Plan EIR, pages VII.G.1-VII.G.4.

[8]Ken Austin, Commercial-Industrial Marketing Supervisor, Pacific Gas and Electric Company, letter of March 23, 1984. This letter is available for public review at the Office of Envrionmental Review, Department of City Planning, 450 McAllister Street, San Francisco, CA.

[9]PG&E's analysis of a typical office building yielded on annual consumption of about 17 kWh per sq. ft. per year which agrees with the City's estimate within the limits of estimation methodology.

E. RESIDENCE PATTERNS AND HOUSING

Future Residence Patterns for San Francisco

Employment growth and building development in downtown San Francisco will result in more employees working and living in the City. Over time, more existing residents will take San Francisco jobs and others who take San Francisco jobs will move into the City.

The future residence patterns described below are quantified and provide the basis for the qualitative conclusions about the housing market implications of downtown growth described in the following subsection. Because the residence patterns can be quantified for both cumulative development and for the increment of growth represented by the project, this allows an estimate of the project's contribution to the impacts of cumulative growth.

Downtown Plan Forecast As Cumulative Context

Forecasts of residence patterns in the year 2000 were prepared for the Downtown Plan EIR.[1] These forecasts incorporate future housing, labor force, and employment patterns in San Francisco and throughout the region and consider changing demographic, housing market, and transportation factors.

Growth expected throughout the region was included in the Downtown Plan EIR analysis of the housing impacts of C-3 District growth. The approach was to use ABAG's regional employment forecasts to describe the growth that is expected to occur by the year 2000. These forecasts incorporate the plans and projects that are expected to be completed by 2000 as well as land use policies from all Bay Area communities. They also include future employment in projects as yet not conceived or proposed. Further, they account for the net result of decreases in employment as firms go out of business or cut back on operations and increases in employment accommodated by new devleopment. They also account for changes in the use of existing space.[2]

This approach provides a cumulative employment context that is consistent with forecasts of expected future housing and labor force throughout the region. To assess housing impacts, it is important that expected growth of employment be analyzed within the

context of expected growth of the housing supply and of the region's workforce for consistent time periods. Deriving growth from a list of projects would not assure that the time frame for the commercial and industrial projects would be consistent with that for the residential projects or with the time frame of available forecasts of housing and employed population.

According to the Downtown Plan EIR forecasts, approximately 189,000 C-3 District workers would be living in San Francisco in 2000. This represents an increase of 30,000 residents employed in the C-3 District over the 159,000 estimated for 1984, a 19% increase.[3] Relatively more employed San Franciscans would be employed in the C-3 District; the percentage of all employed San Franciscans who hold C-3 District jobs would increase from 45% in 1984 to 47.5% in 2000. Relatively fewer C-3 District jobs would be held by San Franciscans. The percentage of all C-3 District jobs held by San Franciscans would decline from 55.5% in 1984 to 50.2% in 2000. These changes would be the result of cumulative development and employment growth in the C-3 District between 1984 and 2000.

It is important to understand the difference between the two percentages above. In each case, the same estimate of the number of jobs held by San Francisco residents is compared to an estimate for a larger group: to all employed residents of the City in the first instance and to all C-3 District employment in the second. These percentages both describe the same employment situation, but from different perspectives. The percentage of jobs held by City residents is used more often, primarily for transportation analysis. The percentage of City residents who work in downtown San Francisco is used less often. This latter perspective is a more direct measure of the role of downtown jobs in employing San Francisco residents.

The Downtown Plan EIR forecasts fall within the range of estimates of C-3 District workers living in San Francisco that was identified by the analysis of Alternatives in the Downtown Plan EIR. By 2000, the Alternative forecasts range from 189,000 to 193,000 C-3 District workers living in San Francisco. The relative comparisons described above apply to all the Alternatives; the percentage of total employed San Franciscans working in C-3 District jobs in 2000 would be higher than in 1984, while the percentage of C-3 District jobs held by residents would be lower.

The residence patterns of future occupants of the 1145 Market Street project can be estimated using information developed in the Downtown Plan EIR analysis. This approach assumes that employment densities for the building and residence patterns for those working in the building would reflect the average conditions for all similar buildings and occupants in the C-3 District in 2000. According to this approach there would be about 243 of 537 people employed in the project who would live in San Francisco. The project would account for about 0.1% of the 189,000 San Franciscans employed in the C-3 District in 2000 under the Downtown Plan EIR forecast.[4]

Estimates Based on the List of Office Projects in Downtown San Francisco

An alternative means of evaluating the cumulative effects of projects such as the proposed 1145 Market Street project is to use the list of all projects that are under construction, approved, or under formal review. (This list is discussed in Appendix B of this report. The list includes projects throughout the greater downtown, which includes the C-3 District as well as adjacent areas.) It is possible to calculate from the list the change in the number of downtown workers living in San Francisco associated with this amount of development. Adding this number to the 1984 base estimate of downtown workers residing in San Francisco produces an estimate of total downtown workers living in the City, once all projects on the list were built and occupied and the space created was absorbed. The results from this approach indicate that about 237,000 workers in the greater downtown area would live in San Francisco at that time.[5]

This approach uses data from the recent downtown employee surveys (as presented in the 1983 Transportation Guidelines) to estimate the residence patterns of future employees in the buildings on the list. Unlike the Downtown Plan EIR forecast approach, this approach incorporates no changes over time in either employment densities or residence patterns. It assumes that current average conditions (reflected in the recent surveys Transportation Guidelines) would continue throughout the buildout and absorption period for the list.

According to this approach there would be about 262 people out of 520 employed in the project who would live in San Francisco. The project would account for about 0.1% of all downtown workers living in San Francisco when all projects on the list were built and absorbed. The project would represent a smaller share of future activity in the greater downtown area than of activity in the C-3 District alone.

Differences in Cumulative Approaches

There are several important differences between the two approaches to cumulative analysis: the Downtown Plan EIR approach of forecasting space and employment and the approach of using a list of proposed projects. (A detailed comparison of the two approaches is presented in Section V.A, Introduction to Cumulative Impact Analysis.) The first approach incorporates forecasts of new development for all land uses (office, retail, hotel, and housing) and accounts for the demolition and conversion of existing space. The second approach accounts for the net addition of office and retail development. Moreover, the Downtown Plan EIR forecast methodology incorporates changes in economic activity and employment that would occur in the use of existing space, while the list method includes the changes accommodated by net new construction and some conversions.[6] The Downtown Plan EIR forecast also includes employment growth, such as building maintenance and construction employment, that is not directly related to the occupancy of space. The Downtown Plan EIR forecast incorporates changes over time in residence patterns, reflecting changes in the regional distribution of population, housing, and employment. The list approach applies relationships derived from current conditions to the future situation, assuming no changes over time. The Downtown Plan EIR approach is currently limited to the C-3 District while the list covers a larger geographic area. In addition, there is no definite time frame associated with the list, while the Downtown Plan EIR forecast represents a best estimate of the development likely to be built and absorbed from 1984 to 2000. It is because of these differences that the cumulative estimates of future residence patterns under each approach are not comparable. Within each approach, however, the project can be compared to the cumulative totals as described above.

Housing Market Implications for San Francisco[7]

There is a complicated series of interactions between employment growth and the housing market impacts of that growth. Throughout this process, adaptations or changes in conditions can be identified, but cannot be solely attributed to employment growth.

With continued employment growth there would be additional demand for San Francisco housing from people with strong preferences for living in the City and with the ability and willingness to pay for housing. This demand would be added to an otherwise competitive market with relatively high prices/rents.

At the same time, additional housing would be produced in San Francisco. There would be more additional supply relative to additional demand in the future than in the past. The primary reason is that housing market factors together with local policies and redevelopment programs are expected to support a larger addition of housing in the City than occurred in the past two decades. Nevertheless, San Francisco is unlikely to accommodate all of the households that would otherwise choose to live in the City. This is explained by the City's role as the employment center for a large region, by the limited land availability in the City, and by the higher costs of producing housing in San Francisco.

Downtown employment and employment growth will continue to be among the factors supporting a competitive housing market. It is unlikely that changes in housing demand due to downtown growth alone would be the cause of significant changes in prices and rents. Future housing prices and rents will depend on other factors besides downtown employment growth (such as interest rates and local land use policies and development costs throughout the region).

Not all of the additional downtown workers would live in San Francisco, however some would choose to do so. Many of the additional workers would be willing to pay higher prices for City housing to save on the time and cost of commuting from a more outlying location. Many of the additional workers preferring to live in San Francisco would be able to pay more for housing than some current residents.

Those workers who choose to live in the City would compete for the existing supply of housing. Those with greater financial resources would support the production of housing by the private market. Those with less financial resources would add to the competition for the stock of housing available at prices and rents below those needed for new construction. To the extent that prices/rents remain below this threshold, the supply of these types of units would not be expanded. Instead, prices/rents of existing units would be somewhat higher, occupancies would be higher (more people per unit because children live at home longer, more people live together, etc., and/or lower vacancies), and there would be pressures to upgrade the existing stock.

Competitive market pressures would be greatest for rental and for-sale housing priced below average, particularly for units below the threshold prices/rents for new housing production. Increased competition in an already competitive market, the relatively high threshold for new construction, and the large pool of consumers (not just downtown workers) with preferences for the older housing stock in San Francisco, all would result in more housing consumers seeking these types of units. The purchase and upgrading of lower-cost older housing is the first step in the process of neighborhood change known as gentrification. Often, existing lower-income residents can be "priced out" of their housing in the upgrading process.

Higher prices and rents, particularly for the relatively lower-cost housing in older neighborhoods, would have various implications over time, for those in the housing market as well as for other existing residents. Some people would decide not to move into the City and some existing residents would move out of the City for more acceptable housing elsewhere. Many individuals would continue to live in San Francisco and pay higher prices/rents for the same City housing. Still others, those unable or unwilling to pay more, would accept City housing which does not fully meet their preferences or needs. Those with the fewest resources to pay for housing (low and some moderate income households) would bear the greatest share of the negative impacts of a housing market with higher prices/rents. These impacts vary--households could move to less satisfactory housing in the City or elsewhere, or more household members could have to contribute to housing expenditures (either within the existing household or because people decide to live together to combine their incomes). It is more likely that the poor will continue to live in the City, although in more crowded or otherwise inadequate housing, than move outside the City. And finally, owners of existing units would benefit to the extent that their housing appreciates. It is not possible to quantify how many households would be affected in each of these ways.

This scenario of future housing market conditions in San Francisco implies that housing affordability will continue to be a problem for many of the City's households. The additional demand due to downtown employment growth would add to a future housing market situation in which many households, particularly those with incomes below the threshold needed to support new production, are expected to be paying a larger

percentage of their incomes for housing or accepting less housing services than in the past.

Generally, those households with fewer financial resources available to pay for housing would make the most sacrifices in adapting to more competitive market conditions. They have less ability to compete for housing and fewer housing options. San Francisco currently has and will continue to attract a large number of persons that will be faced with these difficulties in securing housing. They include renters, younger persons, those holding entry level jobs, the elderly and others on fixed incomes, newly-arrived immigrants as well as other poor and unemployed persons.

The proposed project, as part of the future pattern of downtown office development, would contribute to these housing market impacts. The project's individual contribution cannot be separately identified.

Regional Perspective on Residence Patterns and Housing

The residence patterns of San Francisco workers can also be considered from a regional perspective. In fact, future labor force, housing, and employment throughout the region were important factors in the Downtown Plan EIR residence patterns forecasts. Expected trends in labor force participation, workers per household, housing production, and employment growth provided the future regional context in which the Downtown Plan EIR forecasts were prepared.

Table 9 presents residence patterns forecasts for C-3 District workers as prepared for the Downtown Plan EIR and an alternative residence patterns forecast for downtown workers using the March 22, 1985 list of downtown projects.[8] Both residence forecasts are also shown as percentages of the total employed population in each part of the region, as forecast by the Association of Bay Area Governments (ABAG).[2]
The Downtown Plan 1984 EIR estimates and forecasts for 2000 (first three columns on the left) indicate that the largest number of C-3 District workers would live in San Francisco, followed by the East Bay, the Peninsula, and the North Bay. The largest increase of C-3 District workers would be for those living in the East Bay, followed by San Francisco, the Peninsula and the North Bay. The next three columns compare the Downtown Plan EIR

residence patterns forecasts for C-3 District workers to ABAG's forecasts of total employed residents throughout the region. C-3 District workers would represent a relatively large share of all employed San Franciscans and relatively smaller proportions of the labor force in other Bay Area counties. Comparing 1984 and 2000, there would not be major changes in the C-3 District percentages of the labor force in each area. The same conculsions would apply in the case of any of the five Alternatives to the Downtown Plan.

The residence patterns forecast using the list of downtown projects leads to similar conclusions. In this case, the residence patterns for downtown workers do not consider changes over time in regional labor force, housing, and employment.[9] The downtown workers estimated using this approach also represent a large share of both the totals and the growth of employed residents in San Francisco and relatively smaller shares of both the totals and growth of employed residents elsewhere in the region. As in the case of the Downtown Plan EIR forecast in 2000, there would not be large changes from the 1984 percentages showing downtown workers relative to the rest of the region's labor force.

Because housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the downtown worker percentages of the region's employed population in each area would not be large indicates that downtown workers would not require much larger shares of the region's housing in the future than they do now. In other words, a housing stock consistent with local policies could accommodate both future downtown workers and future workers elsewhere in the region.

TABLE 9
REGIONAL PERSPECTIVE ON RESIDENCE PATTERNS

	Downtown Plan Forecast of Residence Patterns of C-3 District Workers[1]						List-Based Forecast of Residence Patterns Of Workers In Greater Downtown Area[2]					
	Number of Workers			Percent of Total Employed Population In Each Part of Region[3]			Number of Workers			Percent of Total Employed Population In Each Part of Region[3]		
	Total 1984	Total 2000	Change 1984-2000	Total 1984	Total 2000	Change 1984-2000	Total 1984[4]	Total Future[4]	Change from 1984[5]	Total 1984	Total Future	Change from 1984[6]
San Francisco	159,000	189,000	30,000	45%	47%	61%	198,000	237,000	39,000	57%	59%	79%
East Bay	73,000	110,000	37,000	7	8	10	94,000	118,000	24,000	9	8	6
Peninsula	35,000	48,000	13,000	3	4	4	46,000	55,000	9,000	5	4	3
North Bay	19,000	29,000	10,000	7	7	8	27,000	34,000	7,000	10	9	5
TOTAL	286,000[7]	376,000[7]	90,000	11%	11%	11%	365,000	444,000	79,000	14%	13%	9%

[1] Includes permanent employment and annual average construction employment. Incorporates changes in employment for office, retail, hotel and other uses.

[2] There is no time frame associated with development of the projects on the list. This amount of space would probably be absorbed in the mid-1990s. If all the projects on the list were built before the year 2000, there would be more development (not currently on the list) and thus more workers in the downtown area by that year. In this case, the percent of the regional employed population in 2000 would be higher than shown here.

[3] Forecasts of employed residents in Bay Area counties from ABAG, Projections '83. ABAG presents forecasts of employed residents for 1985 and 2000. For comparability with the cumulative analyses (which use 1984 as the base year), ABAG's 1980 to 1985 projections were prorated over the five-year period to estimate 1984 conditions for the region.

[4] The 1984 estimate of total employment in the greater downtown area includes C-3 District estimates from the Downtown Plan EIR and order-of-magnitude estimates for the other downtown areas in that year. For the future employment estimate, estimates of employment growth from the development of buildings on the March 22, 1985 list are added to the 1984 base year totals. See note [5].

[5] This estimate is based on all projects on the list except those included in the Downtown Plan EIR 1984 base year estimate. The estimates of employment and residence patterns for projects on the list are based on data in the Transportation Guidelines, September 1983.

[6] The ABAG forecasts of employed population in each area of the region in 2000 are used for this calculation. As mentioned in note [2], the projects on the list are likely to be built and absorbed in the mid-1990s. Therefore, by the year 2000, more development (and thus more workers) could be expected and the percentages of the total regional employed population would be higher.

[7] The Downtown Plan EIR forecasts include some workers who would live outside the Bay Area. This is a small number and is not shown here.

Source: Recht Hausrath & Associates and EIP Associates

As part of total regional employment growth in the future, increases in downtown employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a competitive regional housing market with relatively high housing prices and rents. By itself, downtown growth would make only a small difference in the region's housing market outside of San Francisco. If downtown growth did not occur and all other employment growth and housing market factors remained as forecast, it is unlikely that the Bay Area's future housing market would be very different from what would otherwise occur with downtown growth.

All other things being equal, regional employment growth would mean higher prices and rents for housing than would otherwise be the case in the future. It would also mean lower housing services (less acceptable housing conditions at the same, or higher, price) for some of the region's households. How much difference (higher prices/rents or lower services) depends on other housing market factors besides employment growth (interest rates, land use policies, other demand factors, etc.). It also depends on the amount of employment growth. Downtown employment growth alone would have less impact than total regional growth.

The housing impacts of employment growth are not uniform throughout the region. Generally, there will be more effects in nearby communities than in those further from the location of job growth. The main reason is that, all other things being equal, households have a preference for residential locations closer to places of work and can pay more for housing at a closer location because they are not paying the higher transportation costs they would otherwise pay at a more distant place.

---

[1] For a description of the methodology used to forecast residence patterns, see Appendix I, Downtown Plan EIR, pp. I.8-I.30. For a description of existing and forecast future residence patterns of C-3 District workers, see Downtown Plan EIR, Section IV.D, Residence Patterns and Housing. Also see Downtown Plan EIR Summary of Comments and Responses, pp. C&R-D.82 - C&R-D.83 (which is hereby incorporated by reference pursuant to State CEQA Guidelines) for a discussion of the role of the residence patterns forecasts in analyzing future housing market conditions.

[2]Association of Bay Area Governments, Projections '83. This report presents forecasts from 1980 to 2000 of population, employment, households and employed residents for each of the nine Bay Area counties.

[3]Downtown Plan EIR, page IV.D.67.

[4]In order to ensure consistency with the cumulative transportation analysis and to provide information on regionwide impacts, this section does not use the OHPP and 101 Montgomery formulas for estimating the number of workers who would live in San Francisco. These formulas only provide estimates of office workers living in San Francisco; they do not include factors for estimating workers living in other parts of the region. These formulas were applied to the project in the project-specific impact section of the original FEIR, page 74.

[5]For the 1984 estimates of workers in the greater downtown area, the C-3 District estimates of employment and residence patterns prepared for the Downtown Plan EIR were used as a base to which order-of-magnitude estimates for that year for the other downtown areas were added. Downtown survey data (C-3 District and South of Market/Folsom) presented in the Transportation Guidelines were used to estimate employment and residence patterns for projects on the March 22, 1985 list for the greater downtown area. The workers associated with these new projects were added to the 1984 base year total estimate.

[6]As explained in the Downtown Plan EIR, the use of existing space is expected to intensify by the year 2000. For example, office employment growth is forecast to exceed the growth of employment that would be accommodated by the development of new office space. From 1990 to 2000, more intensified use of existing space would be equivalent to about a 40% increase in the net addition of office space for that period. (See p. IV.B41 in Downtown Plan EIR.)

[7]This subsection presents a summary of the discussion in the Downtown Plan EIR as explained in the Downtown Plan EIR Summary of Comments and Responses (see pp. C&R-D.83 - C&R-D.94) [(see pp. IV.D.77 - IV.D.82 and pp. I.1 - I.8)], which is hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.

[8]As explained earlier, there are several differences in the estimates of employment and residence patterns derived from these two approaches to cumulative analysis. The most important differences are apparent in the two employment estimates shown in this table. The Downtown Plan employment totals for the C-3 District are smaller than the total employment estimate for the greater downtown area, primarily because the latter estimate covers the C-3 District, plus other areas such as the south of Market area, Civic Center, and the northern waterfront. The employment growth for this larger downtown area is smaller than the C-3 District growth, however, because employment forecasts based on the list of downtown projects also do not incorporate changes in the use of existing space, such as increasing office employment densities.

[9]The distribution of downtown workers among the Bay Area counties is based on the residence patterns forecasts for 1984 prepared for the Downtown Plan EIR and on the Department of City Planning's Transportation Guidelines for Environmental Impact Review, September 1983.

VI. MITIGATION MEASURES

The mitigation measures described in the FEIR as "Measures Proposed as Part of the Project" were part of project plans and were also incorporated as conditions of project approval by City Planning Commission Motion No. 9837M. Measures not described in the FEIR, whether or not they were part of the project, are described below.

The mitigation measures are generally imposed on a per-square-foot basis because an individual office building project contributes to the cumulative impacts in proportion to its contribution to additional employment in downtown, which is related to the space provided in the new building. No individual building contributes disproportionately--geometrically--to the overall cumulative impacts. Therefore, insofar as mitigation measures have been imposed on a per-square-foot basis where possible (e.g., Transit Impact Development Fee, Office-Housing Production Program), the project will contribute its appropriate share to the overall measures which combine to reduce cumulative effects of increases in office space downtown. Where mitigation measures are not appropriately imposed by square footage, such as provision of a transportation broker to encourage transportation systems management, all projects similarly situated have had such a measure uniformly required, as has the project covered by this Supplemental EIR.

A. TRANSPORTATION

Measures Included as Part of Project

The following measure reducing the project's contribution to cumulative parking demand effects were not described in the FEIR but were required as part of project approval and are considered to be part of the project:

1. The project sponsor shall: (a) participate with other project sponsors and/or the San Francisco Parking Authority in undertaking studies of the feasibility of constructing

an intercept commuter parking facility in a location appropriate for such facility to meet the unmet demand for parking for those trips generated by the project which cannot reasonably be made by transit, and (b) participate with other project sponsors and/or the Municipal Railway in studies of the feasibility of the establishment of a shuttle system serving the project site and the parking facility.

Environmental Impact Reports prepared for other projects, subsequent to the FEIR on the 1145 Market Street project, have included more extensive cumulative analyses than that FEIR but have not resulted in adoption of any new standard mitigation measures that would reduce cumulative transportation effects caused by an individual project. This is in part because the Transit Impact Development Fee (TIDF) imposed on this project by ordinance and as a condition of approval is based largely on the incremental contribution of each project to the total cumulative impact of development on the transit system. Because the TIDF imposes a fee on a per square foot basis, a larger amount of development would contribute a larger sum toward mitigation and the project would have contributed its proper share. The TIDF was challenged in a lawsuit (Russ Building Partnership v. City and County of San Francisco) and was upheld in Superior Court (September 27, 1984). If this decision were to be overturned at the Court of Appeal, however, conditions already imposed on the project require that in the alternative the project sponsor will contribute to another equitable transit funding mechanism established by the City. Other measures that would reduce cumulative city-wide and regional transportation effects could be implemented by public agencies but are not feasible or appropriate for individual project sponsors as noted below.

Measures That Could Be Implemented by Public Agencies

If the City were to adopt and implement the transportation improvements described in the Downtown Plan, cumulative transportation impacts would be reduced within San Francisco and, to the extent that San Francisco could influence transportation improvements recommended in the Plan for areas outside the City, adoption of the Plan would reduce regional cumulative impacts caused by downtown growth. The Downtown Plan was adopted by the City Planning Commission in October 1984. Final action on the Plan is expected by the Board of Supervisors by August 1985.

Should the Downtown Plan not be implemented, the City could act to implement the transportation mitigations described in Section V.E., Mitigation, pages V.E.4-28, in the Downtown Plan EIR. These measures are similar or identical to those in the Downtown Plan and include, in summary: measures to construct and maintain rail rapid transit lines from downtown San Francisco to suburban corridors and major non-downtown centers in San Francisco; measures to fund Vehicle Acquisition Plans for San Francisco and regional transit agencies to expand existing non-rail transit service; provide exclusive transit lanes on City streets and on freeways; reduce incentives to drive by reducing automobile capacities of bridges and highways in certain circumstances and by discouraging long-term parking; measures to encourage carpools, vanpools, and bicycle use; and measures to improve pedestrian circulation within downtown San Francisco.[1] Some of the Implementing Actions would require approval by decision-makers outside the City and County of San Francisco; many of the measures would require action by City agencies other than the City Planning Commission, such as the San Francisco Public Utilities Commission and/or Board of Supervisors. These measures are system-wide measures that must be implemented by public agencies. Other than project-specific measures such as the parking mitigation measure described above as part of the project or such as the Transit Development Impact Fee assessment required by San Francisco Ordinance 224-81 which contribute indirectly to implementation of these system-wide measures, it is not appropriate or reasonable to impose mitigation at system-wide levels on individual projects.

Since a substantial portion of the office space analyzed in this Supplemental EIR and shown to contribute to cumulative impacts has yet to be approved, one mitigation measure available to the City is the ability of the City Planning Commission to limit the contribution of future projects to the cumulative impacts by denying or limiting approvals for such projects on a case-by-case basis. The ability to withhold approval of future projects, based upon environmental impacts and available mitigation measures resulting from development, is clearly within the discretion granted to the Commission.

Measures Not Included As Part of the Project

The following measures would contribute to mitigation of cumulative transportation impacts but are not included as part of the project:

1. The project could be redesigned to reduce the total amount of office space or put some space previously committed to office use into a non-office use that would not cause a substantial contribution to cumulative impacts. This measure would reduce the number of new employees with jobs in downtown who are likely to contribute to cumulative transportation, air quality, energy and housing impacts. The reduction would not necessarily reduce the number of employees in direct proportion to any reduction in office space, since some firms that might otherwise have occupied the former "office" space could merely increase employee density. To the extent that fewer people were employed downtown who would be likely to contribute to peak period transportation impacts, the cumulative transportation impacts would be less, although the project's share of total cumulative effects would be reduced by a lower proportion since the project and the total cumulative would both be reduced by the same amount. The project sponsor has rejected this measure because the project is already approved and project economics were based on occupancy as originally designated. The City Planning Commission will determine whether or not to impose the measure as a condition of approval.

2. Increasing contribution requirements over and above the present $5.00 per sq. ft. requirement imposed by San Francisco Ordinance 224-81 (Transit Impact Development Fee) would provide further funding to San Francisco for transit and parking and possibly traffic impact mitigation, depending upon the purposes for which the fees might be designated. These fees might allow transportation improvements such as those described in the Downtown Plan EIR to be implemented earlier than would be possible through Federal, State or other City funding. The City Plannning Commission has not been delegated the authority to require such mitigation. CEQA does not confer on the decision-maker independent authority to mitigate where separate legislative authority is not otherwise available. (Pub. Res. Code Section 21004.)

B. AIR QUALITY

Measures that would reduce transportation impacts by reducing the number of vehicle miles traveled would reduce cumulative air quality effects.

C. HOUSING

In litigation in the Superior Court in SFRG v. City and County of San Francisco, the Court effectively held that impacts on housing are not environmental impacts requiring discussion in an EIR. That ruling was not appealed to the Court of Appeal and is the law of that case. For the sake of providing the fullest possible information to the City Planning Commission and the public, housing impacts and mitigation measures are included in this Supplemental EIR. Actions taken by the project sponsor to comply with housing mitigation conditions are detailed in Appendix E.

The following mitigation measure reducing the project's contribution to cumulative housing impacts in San Francisco was required as part of project approval but was described differently in the FEIR:

> "In Order to help meet the housing demand generated by this project, the project sponsor and/or successive project owners shall meet a housing requirement of 93 credits. . . .Construction and/or rehabilitation of required housing shall be completed within three years following issuance of a Temporary Certificate of Occupancy for the Project. . . .Rehabilitation within the context of this condition means the return to the housing market of units that have been vacant for reasons other than making them eligible for satisfying this condition for at least one year. . . ."

By December 1984, the project sponsor had complied with a portion of the required mitigation measure by having constructed or started construction on 32 new housing units counted as 61 housing credits, consisting of nine two-bedroom units at 575, 577 and 579-27th Street counting as 18 credits, 13 two-bedroom units and 3 studio units at 1059 Union Street counting as 29 credits, and seven two-bedroom units at 666-678 Grandview Street counting as 14 credits. There is an outstanding balance of 32 credits to be met to fully comply with the mitigation measure. The project sponsor intends to build housing in San Francisco to fulfill this obligation.

By complying with the Commission's Office Housing Production Program Guidelines, the project has reduced or will reduce project-specific contributions to cumulative housing impacts in San Francisco to an acceptable level. The Commission has no jurisdiction to require housing construction in other localities.

D. ENERGY

The project is required to comply with Title 24 Energy Standards and thus would not breach state standards for energy consumption. However, in order to provide for possible further reductions in energy consumption, the following additional measures were included as a condition of approval and is therefore included as part of the project:

> "One year after occupancy of the structure, actual energy consumption, converted to thousands of British Termal Units, from Pacific Gas and Electric monthly billings, shall be reported to the Department of City Planning by the project sponsor. If consumption exceeds energy use projections contained in the EIR, a PG&E or other certified energy audit shall be performed, and a copy supplied to the Department of City Planning. Those recommended energy conservation measures which have a 3-year or less payback shall be implemented by the project sponsor."

The measures included as part of the project would reduce energy impacts to an insignificant level.

---

[1] Department of City Planning, Downtown Plan Environmental Impact Report, EE81.3, certified October 18, 1984, Section V.E., "Transportation and Circulation," pp. V.E. 4-28. This material is hereby incorporated by reference and is summarized in the above text.

VII. SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

Chapter V, page 47 of the FEIR is changed in the following ways:

Add at the beginning of the chapter:
"The following are expected significant impacts subject to final determination by the City Planning Commission as part of its certification process. Chapter VII of the Final Supplemental EIR will be revised, if necesary, to reflect the Commission's findings.

"This chapter identifies significant cumulative environmental impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the project, as described in Chapter VI, Mitigation."

Replace Section "A. Cumulative Office Development" with "A. Transportation"
"The project would be part of a trend of denser development in downtown San Francisco. The project would contribute to cumulative traffic increases on downtown streets and on freeways and bridges near downtown San Francisco, and would contribute to cumulative passenger loading impacts on Muni, BART and other transit carriers. Mitigation measures are available which would reduce these effects on a system-wide basis; these mitigation measures could be implemented by the City and County of San Francisco and other agencies with jurisdiction over highways, bridges and transit systems but could not be implemented by individual project sponsors."

Section "B. Energy" is omitted because contributions of the project to possible cumulative impacts on energy use have been mitigated to a level of insignificance by measures required as part of the project approval.

Add a new section "B. Air Quality" as a new paragraph as follows:

"The project would contribute to possible violations of total suspended particulate standards and could contribute to violations of localized carbon monoxide standards. Mitigation measures that would reduce automobile use would also mitigate these impacts."

VIII. SUPPLEMENTAL EIR AUTHORS AND PERSONS CONSULTED

Supplemental EIR Authors

San Francisco Department of City Planning
450 McAllister Street
San Francisco, California 94102
Environmental Review Officer: Barbara W. Sahm
Project Coordinator: Catherine Bauman

Supplemental EIR Consultants

EIP Associates
319 Eleventh Stret
San Francisco, California 94103
San Francisco Projects Coordinator: Stu During
Project Manager: Brian Boxer
Air Quality Analyst: Richard Pollack, Ph.D.
Transportation Engineer: George Nickelson, P.E.

Project Sponsor

Trinity Properties, Inc.
1169 Market Street
San Francisco, California 94102
Project Manager: Mac Suzuki

Project Attorney

Knox and Cincotta
United Nations Plaza
1170 Market Street, Suite 300
San Francisco, California 94102
David P. Cincotta, Esq.
Marc Dragun, Esq.

Project Architect

Backen, Arrigoni and Ross
10 Nottingham Place
San Francisco, California 94133
Project Manager: Michael Chait

IX. DISTRIBUTION LIST

FEDERAL AND STATE AGENCIES

State Office of Intergovernmental
Management
State Clearinghouse
1400 10th Street
Sacramento, CA 95814

Christian Gerike
Northwest Information Center
Calif. Archaeological Inventory
Dept. of Anthropology
Sonoma State University
Rohnert Park, CA 94928

Darnall W. Reynolds, Dist. CEQA Coordinator
Calif. Dept. of Trans.-Bus. & Trans. Agency
P.O. Box 7310
San Francisco, CA 94120

David Tannehill
Calif. Dept. of Trans.-Public Trans. Branch
P.O. Box 7310
San Francisco, CA 94120

REGIONAL AGENCIES

Association of Bay
Area Governments
P.O. Box 2050
Oakland, CA 94604

Irwin Mussen
BAAQMD
939 Ellis Street
San Francisco, CA 94109

CITY AND COUNTY OF SAN FRANCISCO

Robert Levy, Superintendent
Bureau of Bldg. Inspection
450 McAllister Street
San Francisco, CA 94102

Paula Jesson
Deputy City Attorney
City Attorney's Office
Room 206, City Hall
San Francisco, CA 94102

Landmarks Preservation Advisory Board
450 McAllister Street
San Francisco, CA 94102

Jonathan Malone, Secretary
Patrick McGrew, President
Phillip P. Choy
Elizabeth de Losada
David M. Hartley
Carolyn Klemeyer
Jean E. Kortum
Ann Sabiniano
Lucia Bogatay
John Ritchie

Bill Witte, Director
Mayor's Economic Development Council
100 Larkin Street
San Francisco, CA 94102

Tom Jordan, Dir. Bureau Services
Public Utilities Commission
949 Presidio Avenue, Room 150
San Francisco, CA 94115

Joseph Johnson, Director
Bureau of Energy Conservation
949 Presidio Avenue, Room 111
San Francisco, CA 94115

Deborah Learner
Recreation & Park Department
McLaren Lodge, Golden Gate Park
Fell & Stanyan Streets
San Francisco, CA 94117

San Francisco Bureau of Engineering
Streets and Highways
45 Hyde Street, Room 212
San Francisco, CA 94102

CITY & COUNTY (Cont.)

City Planning Commission
450 McAllister
San Francisco, CA 94102

Lee Woods, Secretary
Toby Rosenblatt, President
Susan Bierman
Roger Boas
Norman Karasick, Alternate
Jerome Klein
Yoshio Nakashima
C. Mackey Salazar
Douglas Wright, Alternate

SF Dept. of Public Works
Bureau of Engineering
Division of Streets & Highways
45 Hyde Street, Room 208
San Francisco, CA 94102
Attn: Tim A. Molinare

SF Dept. of Public Works
Mechanical Engineering Section
45 Hyde Street, Room 222
San Francisco, CA 94102
Attn: Vijay K. Gupta

Scott Schoaf
Dept. of Public Works-Traffic Eng. Div.
460 McAllister Street
San Francisco, CA 94102

Edward Phipps
SF Fire Dept., Div. of Planning & Research
260 Golden Gate Avenue
San Francisco, CA 94102

Peter Straus
SF Municipal Railway-Planning Div.
949 Presidio Avenue, Room 204
San Francisco, CA 94115

Wallace Wortman, Dir. of Property
SF Real Estate Dept.
450 McAllister Street, Room 600
San Francisco, CA 94102

Hans Bruno, Assistant Mgr.
Water Department, Distribution Div.
425 Mason Street
San Francisco, CA 94102

MEDIA

Patrick Douglas
San Francisco Bay Guardian
2700 - 19th Street
San Francisco, CA 94110

San Francisco Business Journal
635 Sacramento Street, Suite 310
San Francisco, CA 94111
Attn: Kirsten E. Downey

Evelyn Hsu
San Francisco Chronicle
925 Mission Street
San Francisco, CA 94103

Gerald Adams
San Francisco Examiner
P.O. Box 7260
San Francisco, CA 94120

E. Cahill Maloney
San Francisco Progress
851 Howard Street
San Francisco, CA 94103

The Sun Reporter
1366 Turk Street
San Francisco, CA 94115

Rob Waters
Tenderloin Times
146 Leavenworth Street
San Francisco, CA 94102

LIBRARIES

Faith Van Liere
Documents Library
City Library - Civic Center
San Francisco, CA 94102

Cogswell College Library
600 Stockton Street
San Francisco, CA 94108

Jean Circiello
EPA Library
215 Fremont Street
San Francisco, CA 94105

Jonsson Library of Govt. Documents
Stanford University
Stanford, CA 94305

LIBRARIES (cont.)

Dora Ng
Government Publications
SF State University
1630 Holloway Avenue
San Francisco, CA 94132

Inst. of Govt. Studies
1209 Moses Hall
UC Berkeley
Berkeley, CA 94720

Hastings College of the Law
Library
200 McAllister Street
San Francisco, CA 94102

GROUPS AND INDIVIDUALS

AIA
San Francisco Chapter
790 Market Street
San Francisco, CA 94102

Alice Suet Yee Barkley
Bennet & Barkley
100 California St., Suite 970
San Francisco, CA 94111

Bay Area Council
348 World Trade Center
San Francisco, CA 94111

Albert Beck
c/o Geography Department
California State Univ., Chico
Chico, CA 95929

Bendix Environmental
Research, Inc.
1390 Market, #902
San Francisco, CA 94102

Tony Blaczek
Finance Dept., Coldwell Banker
1 Embarcadero Center, 23rd Floor
San Francisco, CA 94111

Peter Bosselman
Environmental Simulation Lab.
119 Wurster Hall
UC Berkeley
Berkeley, CA 94720

Roger Boyer Associates
215 Leidesdorf
San Francisco, CA 94111
Attn: Anita

Georgia Brittan
870 Market Street, Room 1119
San Francisco, CA 94102

Susan R. Diamond
Brobeck, Phleger, Harrison
One Market Plaza
San Francisco, CA 94105

Michael Buck
1333 - 35th Avenue
San Francisco, CA 94122

David Capron
Lincoln Property Co.
100 Spear Street, 18th Floor
San Francisco, CA 94105

Dale Carlson
369 Pine Street, #800
San Francisco, CA 94104

Charter Commercial Brokerage
Market Research Dept.
101 California Street, Suite 900
San Francisco, CA 94111

Kent Soule
Chickering & Gregory
3 Embarcadero Center, 23rd Floor
San Francisco, CA 94111

Coalition for SF Neighborhoods
Mrs. Dorice Murphy
175 Yukon St.
San Francisco, CA 94114

Joseph Cortiz
2853 - 22nd Street
San Francisco, CA 94110

Calvin Dare
Cushman Wakefield
555 California, #2700
San Francisco, CA 94104

GROUPS AND INDIVIDUALS (Cont.)

James A. Hogland
Cushman Wakefield
555 California St., #2700
San Francisco, CA 94104

Jonathan Soffer
Deringer Development Group
50 California St., Suite 1205
San Francisco, CA 9411

Alex Diamondidis
58 Varennes
San Francisco, CA 94133

James S. Dielschneider
258-B Red Rock Way
San Francisco, CA 94131

DKS Associates
1419 Broadway, Suite 700
Oakland, CA 94612-2069

Rita Dorst
RB International Services
9 Boston Ship Plaza
San Francisco, CA 94111

Lloyd Pflueger
Downtown Association
582 Market Street
San Francisco, CA 94105

Downtown Senior
Social Services
295 Eddy Street
San Francisco, CA 94102

Michael V. Dyett
Blayney-Dyett
70 Zoe Street
San Francisco, CA 94103

Leslie deBoer
EPR, Inc.
649 Front Street
San Francisco, CA 94111

Avril Tolley
ESA
1390 Market St., Fox Plaza
San Francisco, CA 94102

Farella, Braun & Martel
235 Montgomery St.
San Francisco, CA 94104
Attn: Sandra Lambert

Connie Parrish
Friends of the Earth
1045 Sansome Street, #404
San Francisco, CA 94111

Grant Dehart
Heritage
2007 Franklin Street
San Francisco, CA 94109

Fuller Commercial Brokerage
353 Sacramento Street, Suite 500
San Francisco, CA 94111
Attn: Kenneth T. Sproul

Jane Winslow
Gensler and Associates
550 Kearny St.
San Francisco, CA 94104

Charles Gill
The Aspen Group West, Inc.
505 Sansome St., Suite 1005
San Francisco, CA 94111

Goldfarb & Litman
491 - 9th Street
Oakland, CA 94607
Attn: Paula Crow

Annette M. Granucci
Commercial News Publishing Co.
125 Twelfth Street
San Francisco, CA 94103

Gruen,Gruen & Associates
564 Howard Street
San Francisco, CA 94105

Donald Head & Associates
109 Minna Street, #293
San Francisco, CA 94105

GROUPS AND INDIVIDUALS (Cont.)

Robert L. Gibney, Jr.
Heller, Ehrman, White & McAuliffe
44 Montgomery St., 32nd Fl.
San Francisco, CA 94104

Valerie Hersey
Munselle-Brown
950 Battery
San Francisco, CA 94111

Sue Hestor
4536 - 20th Street
San Francisco, CA 94114

Carl Imparato
1205 Garfield
Albany, CA 94706

Gordon Jacoby
Jefferson Associates
683 McAllister Street
San Francisco, CA 94102

Jones Lang Wootton
One Embarcadero Center, Suite 710
San Francisco, CA 94111
Attn: Sheryl Bratton

Kaplan/McLaughlin/Diaz
222 Vallejo Street
San Francisco, CA 94111
Attn: Jan Vargo

Robert Fan, Lee & Fan
Architecture & Planning, Inc.
580 Market Street, Suite 300
San Francisco, CA 94104

Brent Kato
Legal Assistance to the Elderly
333 Valencia Street, 2nd Floor
San Francisco, CA 94103

Carol Lester
Lawyers Title Company of SF
One California Street, Suite 2200
San Francisco, CA 94111

Barry Livingston
Urban Center Development Ltd.
One Embarcadero Center, Suite 2216
San Francisco, CA 94111

Doug Longyear
Finance Dept. Coldwell Banker
1 Embarcadero Center, 23rd Floor
San Francisco, CA 94111

Rolf Wheeler
Marathon U.S. Realties, Inc.
595 Market St., Suite 1330
San Francisco, CA 94105

Bruce Marshall
San Francisco Muni Coalition
600 Montgomery Street, 13th Floor
San Francisco, CA 94111

Marcus Wood
Milton Meyer & Co.
One California St.
San Francisco, CA 94111

Robert Meyers Associates
582 Market Street, Suite 1208
San Francisco, CA 94104

Leland S. Meyerzove
KPOO - FM
P.O. Box 6149
San Francisco, CA 94101

Page, Anderson & Turnbull
364 Bush Street
San Francisco, CA 94104

Susan Pearlstine
Pillsbury, Madison & Sutro
P.O. Box 7880
San Francisco, CA 94120

Gloria Root
Planning Analysis & Dev.
530 Chestnut Street
San Francisco, CA 94133

Mrs. G. Bland Platt
339 Walnut Street
San Francisco, CA 94118

Neville Price & Associates
25 Ecker Square, Suite 1050
San Francisco, CA 94105

Bruce Raful
Rothschild Cappiello
332 Pine Street, Suite 511
San Francisco, CA 94104

GROUPS AND INDIVIDUALS (Cont.)

Deborah McNamee
Research & Decisions Corp.
375 Sutter Street, Suite 300
San Francisco, CA 94108

David P. Rhoades
120 Montgomery Street, Suite 1600
San Francisco, CA 94104

Mrs. H. Klussman, Pres.
San Francisco Beautiful
41 Sutter Street
San Francisco, CA 94104

Stanley Smith
San Francisco Building & Construction
Trades Council
400 Alabama Street, Room 100
San Francisco, CA 94110

Richard Morten
SF Chamber of Commerce
465 California Street
San Francisco, CA 94105

John Innes
San Francisco Christian School
699 Serramonte Ave.
Daly City, CA 94015

G. Kirkland, Exec. Director
SF Conv. & Visitors Bureau
201 - 3rd Street, Suite 900
San Francisco, CA 94103

SF Ecology Center
13 Columbus Avenue
San Francisco, CA 94111

Bernard Speckman
San Francisco Labor Council
1855 Folsom Street
San Francisco, CA 94103

San Francisco Organizing Project
1208 Market St.
San Francisco, CA 94102

San Francisco Planning &
Urban Research Association
312 Sutter Street
San Francisco, CA 94108

David Jones
San Franciscans for Reasonable Growth
241 Bartlett
San Francisco, CA 94110

Harriet B. Levy
San Francisco Forward
150 California Street, Suite 200
San Francisco, CA 94111

Tony Kilroy
San Francisco Tomorrow
942 Market Street, Room 505
San Francisco, CA 94102

John Sanger
Pettit & Martin
101 California Street, 35th Floor
San Francisco, CA 94111

Sedway Cooke Associates
350 Pacific Avenue, 3rd Floor
San Francisco, CA 94111

Richard Seeley & Co.
1814 Franklin Street, #503
Oakland, CA 94612

Senior Escort Program
South of Market Branch
814 Mission Street
San Francisco, CA 94103
Attn: Neighborhood Coordinator

Dave Kremer
Shartsis Freise & Ginsburg
255 California Street, 9th Floor
San Francisco, CA 94111

Becky Evans
Sierra Club
530 Bush Street
San Francisco, CA 94108

Skidmore, Owings & Merrill
One Maritime Plaza
San Francisco, CA 94111
Attn: Jerry Goldberg

Robert Snook
Wells Fargo Bank
475 Sansome Street, 19th Floor
San Francisco, CA 94111

GROUPS AND INDIVIDUALS (Cont.)

Mark R. Solit
Embarcadero Center, Ltd.
Four Embarcadero, Suite 2600
San Francisco, CA 94111

South of Market Alliance
74 Langton Street
San Francisco, CA 94103

Square One Film & Video
725 Filbert St.
San Francisco, CA 94133

Wayne Stiefvater
Appraisal Consultants
701 Sutter Street, 2nd Floor
San Francisco, CA 94109

John Elberling
TODCO
230 Fourth Street
San Francisco, CA 94103

Rod Teter
Cahill Construction Co.
425 California Street, Suite 2300
San Francisco, CA 94104

Jerry Tone, Loan Officer
Real Estate Industries Group
Wells Farge Bank, N.A.
475 Sansome Street, 19th Floor
San Francisco, CA 94111

Timothy Tosta
333 Market Street, #2230
San Francisco, CA 94105

Kathy Van Velsor
19 Chula Lane
San Francisco, CA 94114

Stephen Weicker
899 Pine Street, #1610
San Francisco, CA 94108

Calvin Welch
Council of Community Housing
Organizations
409 Clayton St.
San Francisco, CA 94117

Howard Wexler
235 Montgomery, 27th Floor
San Francisco, CA 94104

Eunice Willette
1323 Gilman Ave.
San Francisco, CA 94124

Marie Zeller
Whisler-Patri
590 Folsom Street
San Francisco, CA 94105

Bethea Wilson & Associates
Art in Architecture
2028 Scott Street, Suite 204
San Francisco, CA 94115

ADJACENT PROPERTY OWNERS

Greyhound Lines Inc.
50 First Street
San Francisco, CA 94106

Rose, Mary & Max Holtz
2940 Tice Creek Drive
Walnut Creek, CA 94595

Amerisport International N.V.
New World Office Building
20 Salisbury Road, #608
Kowloon, Hong Kong

San Francisco Real Estate Dept.
25 Van Ness Avenue
San Francisco, Ca 94102
Attn: Wallace Wortman, Director of
Property

M + B Development
c/o Haig G. Mardikian
240 Stockton Stteet, 4th Floor
San Francisco, CA 94108

X. APPENDICES

City and County of San Francisco

Board of Permit Appeals

June 21, 1985

Brian Boxer
E.I.P.
319 11thStreet
San Francisco, CA 94103

Dear Mr. Boxer:

This letter is in response to a request from Mr. Marc Dragun for confirmation of the continuation of the appeal of Building Permit Application No. 8200517 by San Franciscans for Reasonable Growth.

On December 12, 1984, the Board of Permit Appeals continued the public hearing on this matter until the completion and certification of a Supplemental Environment Impact Report (S.E.I.R.) for the 1145 Market Street Project.

If there are any questions concerning this matter, please call met at (415) 558-4421.

Yours truly,

Robert H. Feldman
Executive Director

RHF/jr

cc: Marc Dragun, Knox & Cincotta
Sue Hestor, Esq., San Franciscans For Reasonable Growth
Barbara Sahm, Department of City Planning

(415) 558-4421 Room 154-A, City Hall San Francisco 94102

KNOX & CINCOTTA
ATTORNEYS AT LAW

ROBERT F. KNOX
DAVID P. CINCOTTA

LAURA R. SWARTZ
LAURENE WU McCLAIN

December 12, 1984

Mr. Robert Passmore
Zoning Administrator
Department of City Planning
450 McAllister
San Francisco, CA 94102

Re: 1145 Market Project

Dear Mr. Passmore:

This letter is intended to set forth our understanding that the Board of Pemit Appeals action, Hearing of Appeal No. 84-269, has been continued indefinitely until a Supplemental Environmental Impact Report (SEIR) has been completed.

If this is your understanding then we must meet immediately to determine what the context of the SEIR is and the schedule for its production.

Please contact me immediately to confirm these understandings.

Very truly yours,

David P. Cincotta

DPC:mc
cc: Ms. Claire Pilcher
Richard Guggenhime,
Chairman Board of Permit Appeals

UNITED NATIONS PLAZA, 1170 MARKET STREET, SUITE 300, SAN FRANCISCO, CALIFORNIA 94102 (415) 558-9400

APPENDIX B: DEVELOPMENT OF THE LIST OF PROJECTS TO BE USED IN THE LIST-BASED ANALYSIS OF CUMULATIVE OFFICE DEVELOPMENT IN DOWNTOWN SAN FRANCISCO

The attached list of office and retail projects was prepared as a background document for a land-use-based method of analyzing cumulative impacts. A land-use-based cumulative analysis is one of the two methods of cumulative analysis suggested by the CEQA Guidelines (Section 15130(b)(1)(A)), whereby a list of related projects is used to determine the combined effects of the whole and to determine the contribution of the proposed office or retail project to the overall cumulative effect. This is only one method of determining cumulative impacts. The other method of determining cumulative impacts is an analysis based on estimates of total employment projected for the area. This latter method is permitted by CEQA Guidelines Section 15130 (b)(1)(B) if the employment projections are based on an appropriate planning document.

The attached cumulative list is an updated version of past lists and includes all office and large retail projects proposed, approved, under construction and recently completed in the greater downtown area which have active applications in the Department of City Planning. This list is appropriate for use only in a land-use-based analysis of the cumulative impacts of office and retail projects in the greater downtown.

Relevent San Francisco Redevelopment Agency projects have been included on the list. Where single buildings or sites are involved they are listed by Assessor's Block. Larger projects covering several blocks are at the end of each list. Redevelopment Agency projects for which no developer participation agreement has been signed are listed as "under formal review." Those for which developer participation agreements have been signed are listed as "approved."

The 621,000 square feet of office space listed as "under formal review" in the Yerba Buena Center Redevelopment Area includes 460,000 s.f. in a project at the northeast corner of Third and Mission Streets, 40,000 s.f. in a project at the northwest corner of Fourth and Clementina, 85,000 s.f. at the northeast corner of Lapu-Lapu and Harrison, and 36,000 s.f. at the southeast corner of Third and Harrison. The 1,250,000 s.f. of office and 201,000 s.f. of retail listed as "approved" in Yerba Buena Gardens includes 750,000 s.f. of office and 100,000 of retail in a project on Market Street between Third and Fourth Streets, 500,00 s.f. of office and 10,000 s.f. of retail at the southeast corner of Third and Mission, 80,000 s.f. of retail in a project bounded by Mission, Howard, Third and Fourth Streets, and 11,000 s.f. of retail in a project bounded by Howard, Folsom, Third and Fourth. The 480,000 s.f. identified as "approved" in Assessor's Block 3735 includes two projects, 95 Hawthorne with 360,000 s.f. of office and the 120,000 s.f. PacTel project at the northeast corner of Third and Folsom. (Source: Mike Mann, San Francisco Redevelopment Agency)

The 635,000 s.f. of office and 185,000 s.f. of retail space shown on the list as "approved" in the Rincon Point/South Beach project includes 450,000 s.f. of office and 120,000 s.f. of retail space on the Rincon Annex site on Mission

Street between Steuart and Spear Streets (Site B), 35,000 s.f. of office and 5,000 s.f. of retail space in a project at Beale and Bryant Streets (Site D) and 150,000 s.f. of office space and 60,000 s.f. of retail space in a project bounded by Brannan, Townsend, Kelly and First Streets (Site I). (Source: Barbara Amato, San Francisco Redevelopment Agency)

Other jurisdictions were also contacted. The 293,300 s.f. State Office Building under construction at Van Ness and McAllister and the proposed 226,880 s.f. State Office Building at Larkin and Golden Gate are included on the list. No new federal office space is currently proposed in downtown San Francisco. (Source: Molly Brand, General Services Agency)

Hotel projects have not been included in the list because hotel uses have different peaking characteristics from office buildings and generally do not significantly affect peak-hour traffic or transit. Therefore they do not contribute to effects such as maximum production of air pollutants (see 135 Main Final Supplemental EIR, EE81.61, certified November 30, 1982, p.150). Residential projects have not been included for a number of reasons. Residential uses are extremely limited in the study area and generally are unrelated to office uses. Residential travel in the downtown usually takes place in the contra-commute direction during peak hours and thus does not contribute to cumulative traffic or transit congestion. In addition, office trips in the p.m. peak period are assumed to be made by workers traveling to their residences, while trip generation calculated for residential uses includes persons returning to their homes after work during the p.m. peak. Including residential uses in the cumulative analysis would double count some travel generated by projects on the list: once when employees left their office buildings and again when they arrived at their downtown residences.

Approximately 1.4 million square feet of office space has been proposed or recently approved for locations outside the greater downtown area. There are six projects over 10,000 square feet. San Francisco Executive Park, just east of U.S. 101 near the southern border of San Francisco, is proposed for about 1.1 million square feet; St. Mary's Medical Office Building on Shrader at Fulton is proposed at 90,000 s.f.; the Nineteenth and Taraval project would contain 27,400 office s.f.; a conversion of an existing building at 2185 Folsom would contain 31,500 s.f. of office space; a 70,000 s.f. medical office building is proposed at Mt. Zion Hospital; the proposed mixed-used project at California and Steiner Streets would contain 19,000 s.f. of office space. A number of smaller projects containing new office space is also proposed. Projects outside of the greater downtown are not included on the cumulative list because their impacts do not accumulate measurably with office space in the downtown area, Although the Executive Park proposal would contribute to the auto traffic on U.S. 101, the critical anaysis points for p.m. peak-period cumulative downtown traffic on U.S. 101 are the freeway entrances near downtown, the approaches to the Bay Bridge, and the Alemany interchange which restricts southbound U.S. 101 traffic in the p.m. peak period. Executive Park traffic would not contribute measurably to peak demands on freeway entrances near downtown or peak direction at peak period on the Alemany interchange, and is factored in as part of the traffic approaching the Bay Bridge before cumulative downtown development is added.

TABLE B-1: PROJECTS COMPLETED BEFORE 1984

Assessor's Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New Constr.	Office (Gross Sq. Ft.) Net New Constr.	Retail (Gross Sq. Ft.) Total New Constr.	Retail (Gross Sq. Ft.) Net New Constr.	Date Occupied
		Completed But Not In Base Case Analysis					
106	81.415ED	1299 Sansome	41,000	41,000	3,500	3,500	1983
141	81.151EV	100 Broadway	13,000	13,000			1983
163	EE81.1	901 Montgomery	63,000	63,000	18,800	18,800	1983
164	81.631D	847 Sansome	23,750	23,750			1983
164	81.251D	936 Montgomery	21,500	11,500			1983
196		736 Montgomery	40,000	40,000			1983
196	CU79.49	Pacific Lumber Co.	92,000	92,000			1983
206	81.165D	401 Washington/Battery	13,200	13,200	1,800	1,800	1983
228	81.610ED	569 Sacramento (C)	19,000	19,000			1983
237	DR80.6	353 Sacramento (Daon)	277,000	251,000	8,300	-2,000	1983
240	DR80.16	550 Kearny (Addition)	71,400	71,400			1983
263	CU79.12	101 California	1,265,000	1,257,000	24,700	-14,300	1983
287	81.550D	Sloane Building (C)	125,300	125,300	30,000	30,000	1983
292	DR79.13	Crocker National Bank	676,000	495,000	86,000	54,000	1983
312	EE79.370	50 Grant	90,000	90,000			1983
313	EE77.257	Nieman Marcus			143,000	128,000	1982
351	DR79.133	10 U.N. Plaza	92,050	92,050			1983
738	SFRA	One Flynn Center	25,000	25,000			1983
762	SFRA	Opera Plaza (M)	50,000	50,000			1983
3518	81.483V	291 10th St.	25,700	25,700		-25,700	1983
3702	EE81.25	1155 Market/8th	138,700	138,700	8,800	8,800	1983
3708	DR80.34	25 Jessie/Ecker Square	111,000	111,000			1983
3709	DR80.36	Five Fremont Center	791,200	722,200	35,000	17,300	1983
3712	DR79.11	Federal Reserve	640,000	640,000			1983
3717	EE78.413	150 Spear	330,000	330,000			1983
3718	DR79.12	Pacific Gateway	540,000	540,000	7,500	7,500	1983
3724	SFRA	Yerba Buena West	335,000	335,000			1983
3732	81.548DE	466 Clementina (C)	15,150	15,150			1983
3735	SFRA	Convention Plaza	339,000	339,000			1983
3735	SFRA	Planter's Hotel (C)	20,000	20,000			1983
3752	EE77-220	Office Bldg. (YBC SB-1)	11,000	11,000			1983
3763	81.287V	490 2nd at Bryant (C)	40,000	40,000			1983
3763	81.381	480 2nd at Stillman (C)	35,000	35,000			1983
3763	32.38EVD	400 2nd & Harrison	71,500	49,500			1983
3776	81.693EV	539 Bryant/Zoe	63,000	63,000			1983
TOTAL			6,504,450	6,188,450	367,400	227,700	

* (C) - Conversion (generally industrial and/or warehouse to office)
(M) - Mixed Use (office/residential/commercial)

SOURCE: Department of City Planning.

The Department's Master Project Log contains listings for projects which are no longer active for various reasons, such as no action by project sponsor in over one year, application withdrawn by sponsor, or project proposal revised to non-office or non-retail uses. Some of these files have not been formally closed due to other higher staff priorities; however, the projects are not included on the cumulative list when staff assigned have concluded that the office project has been abandoned or withdrawn, or the scope or nature of the proposal is so uncertain as to be not reasonably foreseeable. Examples include 98 Battery Street (83.420ED), withdrawn by sponsor, 1361 Bush Street (81.667ED), now a medical facility, Welsh Commons (EE81.59) now a residential-retail project.

In EIRs prepared during the latter half of 1983, the list used for cumulative analyses included a section labeled "Completed But Not In Base Case." As of the end of 1983, that list totaled over 6 million s.f. of office space and about 225,000 s.f. of retail space. These projects were included on pre-1984 lists even though they were built and fully or partially occupied because some of the baseline data (measurements of the existing situation) for some transportation systems were collected before these projects were completed. The baseline data have recently been updated to include projects completed and occupied up to 1984 for use in the Downtown Plan EIR. Using 1984 as the existing baseline situation means that buildings completed by the end of 1983 should be omitted from the list of projects used for cumulative analysis in order to avoid counting effects of these projects twice.

The Department is aware of proposals by Santa Fe Pacific Realty Corporation (formerly Southern Pacific Land Co.) to develop property near China Basin. This area and the proposals by Santa Fe Pacific have been called "Mission Bay." An application for environmental review was filed for the project but was withdrawn in early 1984 and no new application has been filed. After withdrawal of this application, members of the San Francisco Board of Supervisors proposed that the City purchase all or portions of the property; this proposal was later dropped. In July, 1984, the project sponsor announced major revisions in its proposal reducing the scope of the development proposal. No new applications have been filed. Both the original project and the July 1984 proposal would require environmental analyses and Zoning Map and Comprehensive Plan amendments, and BCDC and possibly U.S. Army Corps of Engineers permits in addition to City approvals before any building could begin. The Board of Supervisors and the City Planning Commission have recently accepted a gift from Santa Fe Pacific for further study of potential development of the Mission Bay site (resolutions 345-85 and 10254, respectively) Neither resolution contained any endorsement by the Board or the Commission of any specific proposals for the site. With no application pending, and with the possibility of further revisions by the developer before submittal of any application, the Mission Bay project remains too speculative to include in any cumulative analyses.

The Department of City Planning is in the process of preparing plans and environmental analyses for several areas in or near the downtown. Because these plans involve only proposals for zoning and other land use controls, they are not properly part of any cumulative list. Although analyses for these plans sometimes predict amounts of office space that could be built in the area being studied, the predictions are for purposes of assessing impacts of the plans and in no way reflect proposed future development.

Use of the Department's list for estimating cumulative impacts builds in certain limitations. It assumes, for example, that all proposals will be built at essentially the size proposed and that all buildings once built will be fully occupied. It is important to note that the cumulative list cannot be adjusted to reflect temporary limitatons on growth impacts caused by City actions or policies, such as the Special Use District in the South of Market, the Downtown Plan Interim Controls or the proposed moratorium on new ofice projects containing over 50,000 sq. ft. Nor has any adjustment been made to account for reduced building potential as proposed in the Downtown Plan (base FAR of 14:1 reduced to 10:1). Thus, the total square footages on the list of projects under formal review may be overestimated, and impacts based on the square footages may also be overestimated, if some buildings are not built, not fully occupied, or reduced in size.

TABLE B-2: PROJECTS TO BE USED FOR LIST-BASED CUMULATIVE IMPACT ANALYSIS IN DOWNTOWN OFFICE PROJECT EIRS
-March 22, 1985-

Projects Under Formal Review

Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New	Office (Gross Sq. Ft.) Net New	Retail (Gross Sq. Ft.) Total New	Retail (Gross Sq. Ft.) Net New
60	84.230E	Lombard Plaza	75,000	75,000		
110	82.129E	1000 Front	139,000	139,000	3,000	3,000
112	83.447EA	1100 Sansome/150 Green	60,210	53,210	6,050	6,050
142	84.517E	998 Sansome	26,670	24,720		
192	83.412ED	1055 Stockton			81,500	66,500
195	84.533E	Columbus,Jackson,Kearny	187,150	175,000	19,500	16,380
229	83.222EC	Embarcadero West	611,000	589,000	60,000	60,000
239	85.79E	343 Sansome	373,000	279,800	9,000	9,000
267	84.432E	235 Pine	143,000	143,000	6,000	6,000
312	85.21EC	720 Market	43,000	43,000	6,000	6,000
347	STATE	State Office Building	226,880	226,880		
691	84.451E	1200 Van Ness	40,240	38,300	65,600	61,400
740	85.22E	619 Larkin	2,910	2,910	1,960	1,960
814	81.540E	101 Hayes	132,000	132,000	6,000	6,000
816	84.530E	210 Fell	64,530	49,530	12,120	2,490
837	81.5V	Page Plaza (C)	26,160	26,160		
3512	84.448E	Van Ness Gateway Center	459,670	459,670	39,960	39,960
3520	84.582F	1489 Folsom (C)	9,000	9,000	3,000	3,000
3526	83.475V	530-550 9th	42,300	42,300		
3702	83.196E	1169 Mkt, Trinity	820,000	805,000	40,000	40,000
3703	84.539E	1035-45 Market (C)	70,000	60,000	30,000	-60,000
3705	85.73E	55-5th Street (C)	52,430	47,590	41,950	31,150
3708	84.455E	2nd/Stevenson	292,000	292,000	8,000	8,000
3721	84.403	535 Mission	427,000	360,000	4,000	-4,780
3721	83.331E	100 First @ Mission	348,920	342,000		
3721	84.199E	524 Howard	270,000	270,000	4,430	4,430
3735	83.313E	35 Hawthorne	47,400	47,400	2,900	2,900
3736	84.358E	201 2nd @ Howard	29,300	29,300	4,900	4,900
3736	83.311E	299 2nd @ Folsom	267,760	232,760	15,580	13,630
3744	84.41E	Hills Bros (C)(M)	635,000	535,000	40,000	40,000
3747	85.58E	300 Beale (C)(M)	130,670	130,670	4,700	4,700
3749	83.464EV	50 Guy Place	17,500	17,500		
3761	84.299E	220 Harrison			10,000	10,000
3769	83.213EV	59 Harrison (C)	113,500	49,750		
3786	84.504E	340 Townsend	48,000	48,000	1,300	1,300
3788	82.352EV	640 2nd	39,100	37,400		
9900	SFRA	Rincon Point/S.Beach	65,000	65,000	20,000	20,000
many	SFRA	YBC (misc. bldgs)	621,000	621,000		
TOTAL UNDER FORMAL REVIEW			6,956,300	6,498,850	547,450	403,970

TABLE B-2(Continued)

Projects Approved, Not Yet Under Construction
-March 22, 1985-

Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New	Office (Gross Sq. Ft.) Net New	Retail (Gross Sq. Ft.) Total New	Retail (Gross Sq. Ft.) Net New
59	83.177E	1620 Montgomery	82,270	45,390		
113	82.418EVAD	1171 Sansome	22,000	22,000		
130	83.612C	1558 Powell	2,500	2,500		
136	83.476V	962 Battery	15,000	15,000		
176	82.368E	900 Kearny	25,000	25,000	5,000	5,000
194	83.128E	732 Washington	17,500	17,500	11,240	11,240
225	81.403ED	814 Stockton	3,500	3,500	3,300	3,300
227	82.463E	505 Montgomery	314,000	287,400	12,100	-4,780
236	82.511E	222 Front	20,800	13,940	3,250	-0-
271	83.13E	582 Bush	18,100	18,100	800	800
288	83.148E	665 Bush (M)	12,400	2,600		-2,700
294	82.87D	44 Campton Place	7,600	7,600		
309	83.333E	212 Stockton	32,220	15,890	21,700	16,200
326	83.86E	156 Ellis	3,200	3,200		
327	82.445E	Stockton/O'Farrell	43,300	25,750	57,950	28,000
336	83.21ECV	440 Turk	25,000	8,150		
671	82.24V	1581 Bush (C)	16,000	16,000		
3702	81.549ED	1145 Market	137,500	108,500	8,000	8,000
3705	83.314E	5th and Market	535,000	535,000	120,000	40,000
3705	80.315	Apparel Mart III	332,400	332,400		
3706	84.599D	799 Market @ 4th (C)	98,400	48,800	53,230	-48,800
3708	83.75E	49 Stevenson	169,600	136,900	9,800	-2,900
3735	SFRA	Yerba Buena Center	480,000	480,000		
3750	82.241E	600 Harrison	228,000	228,000	10,000	10,000
3750	82.77V	642 Harrison (C)	54,400	45,900		
3789	81.552EV	625 2nd/Townsend (C)	157,000	157,000		
3794	82.416EV	155 Townsend	19,000	19,000		
3803	81.244D	China Basin Expansion	196,000	196,000		
9900	81.63E	Ferry Building Rehab	309,500	97,500	163,500	124,000
many	SFRA	Yerba Buena Gardens	1,250,000	1,250,000	201,000	201,000
many	SFRA	Rincon Point/S.Beach	635,000	635,000	185,000	185,000
TOTAL APPROVED			5,262,190	4,799,520	865,870	573,360

TABLE B-2(Continued)

Projects Under Construction
March 22, 1985

Block	Case No.	Project Name	Office (Gross Sq. Ft.) Total New	Office (Gross Sq. Ft.) Net New	Retail (Gross Sq. Ft.) Total New	Retail (Gross Sq. Ft.) Net New
58	82.234E	Roundhouse (C)	45,000	45,000	3,000	3,000
65	82.168V	990 Columbus	12,000	12,000		
112	81.258	Ice House (C)	209,000	209,000		
136	81.243E	955 Front/55 Green	50,000	50,000		
143	81.353ED	1000 Montgomery (C)	39,000	39,000		
146	83.99EC	644 Broadway	42,800	42,800		
161	DR80.191	Mirawa Center	36,000	36,000	30,650	30,650
164	81.583D	50 Osgood Place	22,500	22,500	9,100	9,100
166	DR80.15	750 Battery	105,400	105,400	12,800	12,800
166	CU81.7	222 Pacific at Front (C)	142,000	142,000		
167	SFRA	Golden Gateway III	103,000	103,000		
176	81.673EACV	Columbus/Pacific(Savoy)	49,000	49,000	22,000	22,000
176	83.229E	801 Montgomery	31,800	31,800	6,200	6,200
208	81.104EDC	Washington/Montgomery (M)	235,000	233,300	4,000	-1,200
227	EE80.296	Bank of Canton	230,500	177,500		-800
239	DR80.1	456 Montgomery	160,550	160,550	24,250	24,250
240	81.705ED	580 California/Kearny	329,500	260,000	6,500	6,500
261	81.249ECQ	345 California (M)	640,000	466,500	15,500	15,500
262	81.206D	130 Battery	41,000	41,000		
265	81.195ED	388 Market at Pine (M)	234,500	85,500	10,000	-8,500
268	81.422D	250 Montgomery at Pine	105,700	65,700	8,000	8,000
270	81.175ED	466 Bush	86,700	86,700	7,800	2,200
271	81.517	453 Grant	27,500	27,500	6,200	6,200
288	81.461EC	333 Bush (Campeau)(M)	498,400	458,100	20,900	20,900
288	81.687ED	222 Kearny/Sutter	150,000	49,950	10,000	-8,400
288	DR 80.24	101 Montgomery	264,000	234,000	4,900	-14,100
289	81.308D	One Sansome	603,000	603,000	7,000	7,000
311	82.120D	S.F. Federal	246,800	218,850	1,600	-9,440
351	DR79.24	Mardikian/1170 Market	40,000	40,000		
641	82.200CV	1735 Franklin (C)	8,600	8,600		
642	83.218V	1699 Van Ness	20,000	20,000		
642	82.224VEC	1750 California	82,530	82,530		
672	SFRA	Wealth Investments	104,500	104,500		
690	SFRA	Post/Van Ness	60,000	60,000	20,000	20,000
716	81.581ED	Polk/O'Farrell (M)	61,600	61,600	22,400	22,400
743	SFRA	Van Ness/Turk (Vanguard)	85,000	85,000		
767	STATE	State Office Building	293,300	293,300		
818	83.94EV	583-591 Hayes (C)	4,900	4,900		
834	82.603E	25 Van Ness (C)	101,800	42,800	36,400	36,400
3504	82.137V	44 Gough	30,000	30,000		
3512	82.14	Van Ness Plaza	170,000	170,000	6,000	6,000
3704	83.404	901 Market (C)	145,500	126,000	80,000	80,000
3707	81.492ED	90 New Montgomery	124,300	124,300	3,350	3,350
3707	81.245DA	New Montgomery Pl.	227,500	209,700	2,200	-3,900
3708	81.493ED	71 Stevenson	324,600	324,600	6,200	6,200
3709	81.113ED	Central Plaza	353,100	136,300	17,400	17,400

TABLE B-2(Continued) Projects Under Construction (Continued)

3715	82.16EC	121 Steuart	33,200	33,200		
3715		141 Steuart	80,000	80,000		
3715	SFRA	Rincon Pt. Site A	79,000	79,000	11,000	11,000
3717	81.183E	123 Mission	342,800	342,800		
3717	82.82D	135 Main	260,000	260,000	4,000	4,000
3717	EE79.236	101 Mission	219,350	219,350		
3717	EE80.349	Spear/Main (160 Spear)	279,000	279,000	7,600	7,600
3722	81.417ED	144 Second at Minna	30,000	30,000		
3724	81.102E	Holland Ct. (C)	27,850	27,850		
3729	82.86D	774 Tehama	5,800	5,800		
3733	82.29E	832 Folsom	50,000	50,000		
3738	DR80.5	315 Howard	294,000	294,000	3,200	3,200
3741	82.203C	201 Spear	229,000	229,000	5,200	5,200
3749	EE81.18	Marathon - 2nd/Folsom	686,700	686,700	35,300	35,300
3764	82.591E	Second St. Sq. (C)	333,000	263,000	25,000	25,000
3775	81.147V	338-340 Brannan (C)	36,000	36,000		
3787	81.306	252 Townsend at Lusk	61,000	61,000		
3794	83.545V	139 Townsend	51,200	50,000		
3794	81.569EV	123 Townsend	104,000	49,500		
3923	81.491EVF	1550 Bryant	80,600	49,600		
			=========	=========	=======	=======
TOTAL UNDER CONSTRUCTION			10,260,380	9,105,580	495,650	411,010
GRAND TOTAL ALL PROJECTS			22,478,870	20,403,950	1,908,970	1,388,340

(C) - Conversion (generally industrial and/or warehouse to office)
(M) - Mixed Use (office/residential/commercial)

This list was developed solely for the process of assessing the environmental impacts of proposed new office projects in downtown San Francisco. The list includes all projects for which an application has been received and which are not part of the baseline. The baseline is current to 1984. Because no later baseline has been established, this list may identify as "under construction" projects which have been completed and substantially occupied since March 1984.

4359B

TABLE B-3

MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1983.
(GROSS SQUARE FEET)

Year	Total Gr. Square Ft. Completed	5-Year Total	5-Year Annual Average	Cumulative Total All Office Bldgs Completed	Cumulative Total Downtown Office Buildings
Pre-1960		(Net)a	(Net)a	28,145,000(b)	24,175,000(c)
1960	1,183,000				
1961	270,000				
1962	--				
1963	--				
1964	1,413,000				
		2,866,00	573,200		
1960-1964		(2,580,000)	(516,000)	30,725,000	26,754,000
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
		8,379,000	1,675,800		
1965-1969		(7,541,000)	(1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	---				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
		8,615,000	1,723,000		
1970-1974		(7,753,000)	(1,550,000)	46,019,000	42,048,000
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	---				
1979	2,532,000				
		8,157,000	1,631,400		
1975-1979		(7,341,000)	(1,468,000)	53,360,000	49,389,000
1980	1,284,000				
1981	3,029,000				
1982	3,771,000				
1983	4,108,000				
		12,192,000(d)	3,048,000(d)		
1980-1983		(10,972,800)	(2,743,200)	65,552,000	60,144,000

TABLE B-3
(continued)

/a/ Net equals 90 % of gross. Net new space is added at an increase factor of 90 %, since it is assumed that space equal to 10 % of a new building is demolished to make land available for the new replacement building.
/b/ Source: San Francisco Downtown Zoning Study, Working Paper No. 1, January 1966, Appendix Table 1, Part 1. For pre-1965, data include the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes one-third of retail-office mixed use. For post-1964, data include the entire city.
/c/ Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the cited January 1966 report. For post-1964, the entire area east of Franklin St. is included.

/d/ Four-year total and average.

SOURCE: Department of City Planning, July 18,1984.

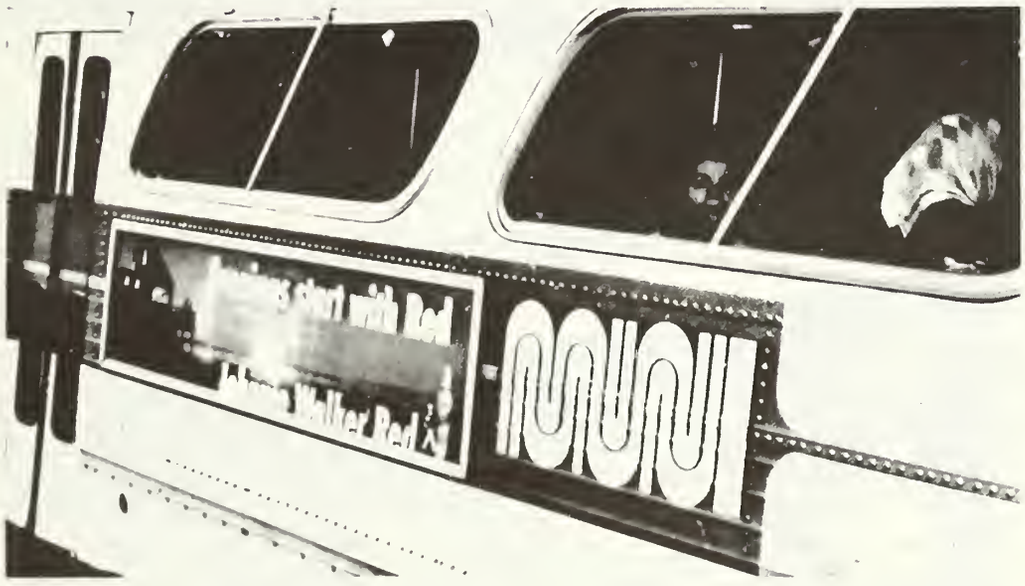
TABLE C-1: PASSENGER LEVELS OF SERVICE ON BUS TRANSIT

Level of Service	Description	Passengers per Seat
A	Level of Service A describes a condition of excellent passenger comfort. Passenger loadings are low with less than half the seats filled. There is little or no restriction on passenger maneuverability. Passenger loading times do not affect scheduled operation.	0.00-0.50
B	Level of Service B is in the range of passenger comfort with moderate passenger loadings. Passengers still have reasonable freedom of movement on the transit vehicle. Passenger loading times do not affect scheduled operations.	0.51-0.75
C	Level of Service C is still in the zone of passenger comfort, but loadings approach seated capacity and passenger maneuverability on the transit vehicle is beginning to be restricted. Relatively satisfactory operating schedules are still obtained as passenger loading times are not excessive.	0.76-1.00
D	Level of Service D approaches uncomfortable passenger conditions with tolerable numbers of standees. Passengers have restricted freedom to move about on the transit vehicle. Conditions can be tolerated for short periods of time. Passenger loadings begin to affect schedule adherence as the restricted freedom of movement for passengers requires longer loading times.	1.01-1.25
E	Level of Service E passenger loadings approach manufacturers' recommended maximums and passenger comfort is at low levels. Freedom to move about is substantially diminished. Passenger loading times increase as mobility of passengers on the transit vehicle decreases. Scheduled operation is difficult to maintain at this level. Bunching of buses tends to occur which can rapidly cause operations to deteriorate.	1.26-1.50
F	Level of Service F describes crush loadings. Passenger comfort and maneuverability is extremely poor. Crush loadings lead to deterioration of scheduled operations through substantially increased loading times.	1.51 1.60

SOURCE: Environmental Science Associates, Inc. from information in the Interim Materials on Highway Capacity, Transportation Research Circular 212, pp. 73-113, Transportation Research Board, 1980.

K INGLESIDE - VAN NESS STATION
Wednesday, September 9, 1981 - 8:00 A.M. - Inbound

N JUDAH - VAN NESS STATION
Wednesday, September 16, 1981 - 5:00 P.M. Outbound



38 GEARY - VAN NESS AVE. AND O'FARRELL ST.
Wednesday, October 21, 1981 - 9:00 A.M. - Inbound

38 GEARY - VAN NESS AVE. AND GEARY BLVD.
Wednesday, October 21, 1981 - 4:20 P.M. - Outbound

SOURCE: ESA

FIGURE C-1:
PHOTOS OF PEAK MUNI LOADING CONDITIONS

M OCEAN VIEW - CIVIC CENTER STATION
Wednesday, September 9, 1981 - 8:20 A.M. - Inbound

L TARAVAL - VAN NESS STATION
Wednesday, September 16, 1981 - 4:50 P.M. - Outbound

14 MISSION - MISSION STREET AND SOUTH VAN NESS AVE.
Tuesday, September 29, 1981 - 5:45 P.M. - Outbound

N JUDAH - DUBOCE AND CHURCH
Wednesday, June 8, 1983 - 8:00 A.M. Inbound

SOURCE: ESA

FIGURE C-1 (CONTINUED):
PHOTOS OF PEAK MUNI LOADING CONDITIONS

30X MARINA EXPRESS - BAYSHORE AVE. AND ARIETA AVE.
Wednesday, October 7, 1981 - 8:00 A.M. - Inbound

J CHURCH - CHURCH ST. AND DUBOCE AVE.
Tuesday, September 29, 1981 - 9:00 A.M. - Inbound

SOURCE: ESA

FIGURE C-1 (CONTINUED):
PHOTOS OF PEAK MUNI LOADING CONDITIONS

PEDESTRIAN ANALYSIS

The pedestrian analysis has been conducted following methods developed by Pushkarev and Zupan in Urban Space for Pedestrians (MIT Press, 1975). Table C-2 shows the relationship between pedestrian flow rates and the flow regimes (categories) used to describe levels of operation. Figure C-2 shows photographs of pedestrian conditions that correspond to the flow regimes.

TABLE C-2: PEDESTRIAN FLOW REGIMEN

FLOW REGIME/a/	CHOICE	CONFLICTS	FLOW RATE (p/f/m)/b/
Open	Free Selection	None	less than 0.5
Unimpeded	Some Selection	Minor	0.5 to 2.0
Impeded	Some Selection	High Indirect Interaction	2.1 to 6.0
Constrained	Some Restriction	Multiple	6.1 to 10.0
Crowded	Restricted	High Probability	10.1 to 14.0
Design Limit - Upper Limit of Desirable Flow			
Congested	All Reduced	Frequent	14.1 to 18.0
Jammed	Shuffle Only	Unavoidable	Not applicable/c/

/a/ Photographs of these conditions are shown in Figure C-2.
/b/ P/F/M = Pedestrians per foot of effective sidewalk width per minute.
/c/ For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

SOURCE: Urban Space for Pedestrians, MIT Press, 1975, Cambridge, MA.

The borderline between IMPEDED and UNIMPEDED FLOW, with about 130 sq ft (12 m^2) per person, or a flow rate of about 2 people per min per ft (6.5 per m) of walkway width. Individuals as well as couples visible in this view have a choice of speed and direction of movement. This rate of flow is recommended for design of outdoor walkways in office districts and other less dense parts of downtown areas.

The uneven nature of UNIMPEDED FLOW. While the people walking in the plaza which is 17 ft (5.2 m) wide, compared to 23 ft (7 m) in the preceding picture have almost 130 sq ft (12 m^2) per person on the average, the space allocation for the eight individuals in the foreground is closer to 70 sq ft (6.4 m^2). Thus, indirect interaction with others is still quite frequent in the upper range of UNIMPEDED FLOW.

The midpoint of the IMPEDED FLOW range, with about 75 sq ft (6.9 m^2) per person, or a flow rate of about 4 people per min per ft (13 per m) of walkway width. Physical conflicts are absent, but pedestrian navigation does require constant indirect interaction with others. This rate of flow is recommended as an upper limit for the design of outdoor walkways in shopping districts and other dense parts of downtown areas.

Lower range of UNIMPEDED movement, approaching OPEN FLOW. About 350 sq ft (32.2 m^2) per person, or a flow rate of less than 1 person per min per ft (3.3 per m) of walkway width. Complete freedom to select the speed and direction of movement; individuals behave quite independently of each other. For a design standard based solely on pedestrian density, this amount of space can be considered excessive.

FIGURE C-2:
PHOTOS OF PEDESTRIAN FLOW LEVELS

SOURCE: Pushkarev and Zupan

JAMMED FLOW. Space per pedestrian in this view is about 3.8 sq ft (0.35 m^2). This is representative of the lower half of the speed-flow curve, where only shuffling movement is possible and even the extremely uncomfortable maximum flow rate of 25 people per min per ft (82 per m) of walkway width cannot be attained due to lack of space. Photograph by Louis B. Schlivek.

The threshold of CONGESTED FLOW. The first eleven people in the view have about 16 sq ft (1.5 m^2) per person, corresponding to a flow rate of about 15 people per min per ft (49 per m) of walkway width. The beginnings of congestion are evident in bodily conflicts affecting at least three of the walkers, and in blocked opportunities for walking at a normal pace.

The onset of CROWDED FLOW, with an average of about 24 sq ft (2.2 m^2) per person, or a flow rate of about 10 people per min per ft (33 per m) of walkway width. Choice of speed is partially restricted, the probability of conflicts is fairly high, passing is difficult. Voluntary groups of two, of which two can be seen in the picture, are maintained, but cause interference. Note also some overflow into the vehicular roadway in the background.

The midpoint of the CONSTRAINED FLOW range, with about 30 sq ft (2.8 m^2) per person, or a flow rate of about 8 people per min per ft (26 per m) of walkway width. The choice of speed is occasionally restricted, crossing and passing movements are possible, but with interference and with the likelihood of conflicts. The man in the dark suit seems to be able to cross in front of the two women in the foreground quite freely, but in the background near the curb people are having difficulty with passing maneuvers.

FIGURE C-2 (CONTINUED):
PHOTOS OF PEDESTRIAN FLOW LEVELS

SOURCE: Pushkarev and Zupan

INTERSECTION ANALYSIS

The capacity analysis of each intersection at which a turning movement count was made utilized the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity", Transportation Research Circular No. 212, Transportation Research Board, January 1980). The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service (see Table C-3). For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E.

TABLE C-3: VEHICULAR LEVELS OF SERVICE AT SIGNALIZED INTERSECTIONS

Level of Service	Description	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	less than 0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.01+

/a/ Capacity is defined as Level of Service E.

SOURCE: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering from Highway Capacity Manual, Highway Research Board, 1965

TABLE C-4: TRAFFIC LEVELS OF SERVICE FOR FREEWAYS

Level of Service	Description	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.	0.00-0.60
B	Level of Service B is in the higher speed range of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted.	0.61-0.70
C	Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the highervolumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained.	0.71-0.80
D	Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.81-0.90
E	Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds (typically about 30 to 35 mph) than in Level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.	0.91-1.00
F	Level of Service F describes forced flow operation at low speeds (less than 30 mph), in which the freeway acts as storage for queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00+

/a/ Capacity is defined as Level of Service E.

SOURCE: Environmental Science Associates, Inc. from information in the Highway Capacity Manual, Special Report 87, Highway Research Board, 1965.

APPENDIX D

AIR QUALITY

SAN FRANCISCO AIR POLLUTANT SUMMARY 1980-1984[1]

POLLUTANT	FEDERAL STANDARD[2]	STATE STANDARD[3]	1980	1981	1982	1983	1984
Carbon Monoxide (CO)							
1-hour average (ppm)	35	20					
Highest hourly average			10	8	--	--	--
No. of exceedances			0	0	0	0	--
8-hour average (ppm)	9	9					
Highest 8-hour average			7.5	5.3	9	5.1	10.8
No. of exceedances			0	0	1	0	1
Ozone (O_3)							
1-hour average (ppm)	.12[4]	.10					
Highest hourly average			0.09	0.07	.08	.13	0.10
No. of exceedances			0	0	0	1	0
Nitrogen Dioxide (NO_2)							
1-hour average (ppm)	None	.25					
Highest hourly average			0.17	0.11	.13	.13	0.14
No. of exceedances			0	0	0	0	0
Sulphur Dioxide (SO_2)							
24-hour average (ppm)	.14	.05					
Highest 24-hour average			0.018	0.016	.012	.018	0.03
No. of exceedances			0	0	0	0	0
Total Suspended Particulates (TSP)							
24-hour average (ug/m^3)	260	100					
Highest 24-hour average			173	103	106	117	--
No. of exceedances			6	1	3	4	--

SAN FRANCISCO AIR POLLUTANT SUMMARY 1980-1984[1]

POLLUTANT	FEDERAL STANDARD[2]		STATE STANDARD[3]	1980	1981	1982	1983	1984
Annual Geometric Mean (ug/m^3)[5]	75	60						
Annual Geometric Mean				52.1	56.0	57.0	55.0	60.0
Annual Exceedances				No	No	No	No	1
Lead								
3-month Average (mg/m^3)	1.5	None						
Highest 3-month average				0.53	0.35	---	---	---
No. of exceedances				0	0	---	---	---
1-month Average (mg/m^3)	None	1.5	---	---	---	---		
No. of exceedances	---	---	---	---	---	---		

[1]1980-84 data collected at 900 23rd Street.

[2]Federal standard is not to be exceeded more than once per year. Annual average standards are not be exceeded.

[3]State standards are not to be equalled or exceeded. The State 1-hour average CO standard was reduced from 40 ppm to 20 ppm in 1982.

[4]The federal standard is given in terms of Expected Annual Excesses, which is based on a 3-year running average.

[5]The annual Geometric Mean is a single number that applies to an entire year of data. "No" indicates TSP concentrations did not exceed 60 (ug/m^3).

Note: ppm = parts per million
ug/mg^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Source: BAAMQD, Air Pollution in the Bay Area by Station and Contaminant, March issues, 1980-1985; and California Air Resources Board, California Air Quality Data, Annual Summaries, 1979-1982.

APPENDIX E: RESIDENCE PATTERNS AND HOUSING

This appendix describes the methodologies for estimating residence patterns for the project and for cumulative development in downtown San Francisco. There is one method for estimating residence patterns for the project; there are two methods for estimating residence patterns associated with cumulative development. The background on these latter two approaches is presented in Section V.A., Introduction to Cumulative Impact Analysis.

Estimating Residence Patterns for the Project

For the purposes of cumulative impact analysis, the residence patterns for the project are estimated for the year 2000. The assumption is that the project would have characteristics similar to the average characteristics for all similar buildings in the C-3 District in 2000.

The first step is to estimate employment in the project. The year 2000 employment densities developed in the Downtown Plan EIR analysis for management/technical office space (267 gsf per employee) and retail space (350 gsf per employee) are applied to the net additional space in the project in each of these use categories.[1] (In some projects the net additional retail space may be a negative number.)

In the second step, the number of these workers who would live in San Francisco and other areas of the region are estimated using the year 2000 distribution of C-3 District management/technical office workers and retail workers by place of residence. The residential distribution for office workers in the project would be: San Francisco - 44%, East Bay - 35%, Peninsula - 11%, and North Bay - 10%. For retail workers, the distribution would be: San Francisco - 75%, East Bay - 12%, Peninsula - 10%, North Bay - 3%.[2] The total estimate of workers in the project who would live in each area of the region is the sum of the office and retail estimates in each area.

Estimating Residence Patterns for Cumulative Development

Two residence patterns forecasts are used in the cumulative impact analysis. The first is from the Downtown Plan EIR analysis of C-3 District development and employment

growth to the year 2000. The C-3 District forecasts presented in this Supplemental EIR are the results of the methodology and procedures used in the Downtown Plan EIR analysis to forecast changes over time in the residential distribution of C-3 District workers. No new calculations were undertaken for the purposes of this Supplement. The second residence patterns forecast involved a set of calculations to establish both a 1984 base year estimate and future estimates for projects on the list of cumulative office development. These are described below.

Downtown Plan EIR Approach

The residence patterns for all C-3 District employees in 2000 were forecast for the Downtown Plan EIR. (This approach used information and data from the Downtown Plan EIR forecasts, including 1981 and 1982 employer/employee surveys in the C-3 district and South of Market areas; 1960, 1970 and 1980 Census data, ABAG housing forecasts and other relevant data sources.) These forecasts are summarized in the Supplemental EIR section on Residence Patterns and Housing (see Table 9). The methodologies for forecasting C-3 District employment and residence patterns are described in Appendices H and I of the Downtown Plan EIR.[3] Table I.10 on page I.38 of the Downtown Plan EIR shows the residence patterns percentages applied to employment in each land use (or business activity). The resultant distribution for all workers by place of residence is as follows: San Francisco - 50%, East Bay - 29%, Peninsula - 13%, and North Bay - 8%.

List-Based Approach

The methodology for estimating residence patterns for workers associated with the list of cumulative office development in the downtown area is based on applying factors describing current conditions to the increment of office and retail space included in projects on the list. The factors and data describing current conditions for employment densities and the distribution of workers by place of residence are presented in the Department of City Planning document Transportation Guidelines for Environmental Impact Review: Transportation Impacts (hereinafter Transportation Guidelines), published in September, 1983. The data in the Transportation Guidelines are based on analyses of the C-3 District Employer and Employee Surveys conducted for the Downtown Plan EIR, and a similar survey conducted in the South of Market/Folsom area, in 1981 and 1982.

In the first step, an employment density factor is applied to the net addition of office and retail space in projects on the list. For office space the density factor is 276 gsf per employee; for retail space the density factor is 350 gsf per employee.[4]

In the second step, projects in the South of Market/Folsom area (bounded by Folsom, Ninth, Berry, and the Embarcadero) are treated differently from projects elsewhere in the downtown area.[5] The residence patterns for all workers in the South of Market/Folsom projects are estimated according to the following percentage distribution: San Francisco - 44%, East Bay - 27%, Peninsula - 16%, and North Bay - 13%.[6] The residence patterns for office workers in other projects on the list (in the C-3 District and elsewhere in the downtown area) are estimated according to the following percentage distribution: San Francisco - 49%, East Bay - 32%, Peninsula - 11%, and North Bay - 8%.[7] For retail workers in these non-South of Market/Folsom projects, the residence patterns distribution is as follows: San Francisco - 77%, East Bay - 11%, Peninsula - 10%, and North Bay - 2%.[8] The sum of all workers in each place of residence is the estimate of the increase in downtown workers living in each area due to development of projects on the cumulative list.

This approach has a third step in order to estimate cumulative totals for the downtown workforce, comparable to the C-3 District 2000 forecasts. For residence patterns, the base year totals are the 1984 estimates as prepared for C-3 District employment for the Downtown Plan EIR analysis, plus estimates for the other downtown areas. These latter estimates are based on order-of-magnitude employment estimates for the South of Market/Folsom area and all other downtown areas outside the C-3 District. For the 1984 base year residence patterns totals, the percentage distributions noted above (from the Transportation Guidelines) are applied to employment estimates for the South of Market/Folsom area and other downtown areas, as appropriate. The sum of the 1984 base year totals of workers living in each area of the region and the estimates for each area developed from the list of projects represents the downtown workers residing in each area in the future, accounting only for buildout and absorption of the projects on the list. Other changes both in land use and in the intensity of activity in space in the downtown area could occur over this time period. If these changes were included in the analysis, the employment estimates and the estimates of workers residing in each area of the region would be larger than shown in the text.

[1] Downtown Plan EIR, page IV.C.45 and note 30 on page IV.C.61; also see Table IV.C.2 on page IV.C.6.

[2] Ibid., page I.38.

[3] For a description of the employment forecast methodology, see the Downtown Plan EIR, Appendix H, pages H.6-H.16. For a description of the residence patterns forecast methodology, see the Downtown Plan EIR, Appendix I, pages I.8-I.30.

[4] San Francisco Department of City Planning, Transportation Guidelines for Environmental Impact Review: Transportation Impacts, September, 1983, pages 14 and 17.

[5] See Transportation Guidelines, pages 28 and 30 for maps of the Cumulative Development Study Area and the South of Market/Folsom area.

[6] Ibid., page 21.

[7] Ibid., pages 11-12.

[8] Ibid., page 17.

KNOX & CINCOTTA
ATTORNEYS AT LAW

ROBERT F. KNOX
DAVID P. CINCOTTA

LAURA R. SWARTZ
LAURENE WU McCLAIN

December 28, 1984

Mr. William Witte
Executive Director
Mayor's Office of Housing
and Economic Development
100 Larkin Street
San Francisco, CA 94102

Re: Request for Final Approval for Housing Credits Under the S.F. Office/Housing Production Program (OHPP)

Dear Bill:

This letter is to request Final Approval for Housing Credits in satisfaction of the conditions of the resolution approving 1145 Market Street on the following properties. These properties have all started construction and/or been completed (see attached building permits) and have been constructed by Trinity Properties.

1. 575, 577 & 579 27th Street; 9 new dwelling units; each 2 bedrooms, counting as 18 housing credits (Building Permit Nos. 502931, 502929 and 502930, respectively, all issued July 1, 1983).

2. 1059 Union; 16 new dwellings, 13 2-bedrooms and 3 studios, counting as 29 housing credits. (Building Permit No. 518804, issued July 31, 1984).

3. 666-678 Grandview; 7 new dwellings each having 2 bedrooms, counting as 14 housing credits. (Building Permit Nos. 519575 and 519574 issued August 14, 1984).

This totals 51 housing credits to be applied against the housing requirements Trinity Properties has regarding Motion No. 9837M. We understand a balance of 44 remains.

If any further information is required, please do not hesitate to call me.

Very truly yours,

David P. Cincotta

DPC:jr

City and County of San Francisco
Department of City Planning

450 McAllister Street
San Francisco, CA 94102
(415) 556 - 4656

DEAN L. MACRIS
DIRECTOR OF PLANNING

January 2, 1984

Mr. David P. Cincotta
Knox & Cincotta
1170 Market Street, Suite 300
San Francisco, California 94102

Dear Mr. Cincotta:

Per your letter and evidentiary materials to William Witte of December 28, 1984, I hereby grant final approval of 61 housing credits to Trinity Properties, to be applied to its OHPP requirement for 1145 Market Street (Motion No. 9837M). (Please note that the actual number of credits totals 61, not 51 as indicated in your letter.)

Thank you for your participation in the program.

Sincerely,

Dean Macris

DEAN MACRIS
Director

DM:lc

cc: Bill Witte
Lu Blazej, City Planning

TRINITY1/H.15

Trinity 1 Proceedings

RECEIVED
JAN 24 1985
ADS

January 22, 1985

Mr. David P. Cincotta
Knox & Cincotta
1170 Market Street, Suite 300
San Francisco, California 94102

Dear Mr. Cincotta:

Per your letter and evidentiary materials to William Witte of December 28, 1984, I hereby grant final approval of 61 housing credits to Trinity Properties, to be applied to its OHPP requirement for 1145 Market Street (Motion No. 9837M). (Please note that the actual number of credits totals 61, not 51 as indicated in your letter.)

Thank you for your participation in the program.

Sincerely,

Dean Macris

DEAN MACRIS
Director

DM:lc

cc: Bill Witte
Lu Blazej, City Planning

TRINITY1.HSG/H.1

APPENDIX F

File No. 81.549ED

Motion No. 9837M

1145 Market Street

MOTION

ADOPTING FINDINGS RELATED TO THE APPROVAL OF BUILDING PERMIT APPLICATION NUMBER 8200517 BY THE CITY PLANNING COMMISSION FOR A PROPOSED OFFICE/COMMERCIAL STRUCTURE LOCATED AT 1145 MARKET STREET.

Preamble

A. Building Permit Application Number 8200517 for a proposed office/commercial project at 1145 Market Street was filed on January 22, 1982, by Trinity Properties, Inc. ("Project Sponsor").

B. The application for environmental evaluation for such project was filed with the Office of Environmental Review on or about May 5, 1981.

C. On June 23, 1983, the City Planning Commission (hereinafter "Commission") held a duly noticed public hearing on the Draft Environmental Impact Report for such project, File No. 81.549E ("Draft EIR").

D. On or about October 20, 1983, the Commission held a duly noticed public hearing on the Certification of the Final Environmental Impact Report for such project, File No. 81.549E ("FEIR").

E. On or about October 20, 1983, after Certification of the FEIR, the Commission conducted a duly noticed public hearing on the merits of Building Permit Application Number 8200517 pursuant to the Commission's discretionary review powers.

F. The project is an office building thirteen (13) stories and approximately 190 feet (190') in height, containing a total of approximately 145,200 gross square feet of floor area, including approximately 137,200 gross square feet of office space, 8,000 gross square feet of ground floor retail space area one subsurface level for mechanical equipment, all as more fully described pages 6 through 16 of the Draft EIR.

G. The Project is within the C-3-G (Downtown General Commercial) and 240-G Height and Bulk Districts, on property located at 1145 Market Street, between Seventh and Eighth Streets, Lots 44 and 44A in Assessor's Block 3702, and would have an FAR of 10 to 1.

H. The Commission on June 29, 1967 and January 17, 1980, approved Resolutions No. 6111 and 8474, respectively, establishing a policy whereby any building permit application on Market Street or in the Downtown Interim Special Review Area would be reviewed by the Commission under its discretionary powers, and the topics of review would include protection and enhancement of the pedestrian environment, preservation of architecturally and historically significant buildings, preservation of housing, avoidance of industrial displacements, adequate and appropriate means of transportation, energy conservation, relationship to environs, and effect on views from public areas and on the skyline.

I. In reviewing this application in accordance with the provisions of the California Environmental Quality Act ("CEQA"), the State CEQA Guidelines ("State Guidelines") and Chapter 31 of the San Francisco Administrative Code ("Chapter 31"), the Commission has reviewed and considered the information contained in the FEIR, having found the FEIR to be adequate, accurate and objective, having certified the completion of the FEIR in compliance with the California Environmental Quality Act and the State EIR Guidelines on October 20, 1983, and finding that there are no significant revisions to the Draft EIR.

J. In reviewing this application, the Commission has had available to it for its review and consideration studies, letters, plans and reports pertaining to the Project contained in the Department of City Planning's case files, has reviewed and considered the information contained in the Downtown EIR Consultant's Report prepared by Environmental Science Associates, Inc., dated May, 1983, and has heard testimony from interested parties during the public hearing on the merits of the Project.

Findings

Having reviewed all the materials identified in the recitals above, and having heard oral testimony and arguments, this Commission finds, concludes, and determines as follows:

1. The above recitals are accurate and also constitute findings of the Commission.

2. The Project is in conformity with all applicable standards of the San Francisco City Planning Code ("Code") and is allowed as a principal permitted use under current zoning regulations.

3. The Building Permit Application has been reviewed by the City Planning Commission under its discretionary review powers pursuant to Commission policy under Resolutions No. 6111 and 8474.

4. The nation, region and the City and County of San Francisco ("City") are currently experiencing a high level of unemployment, which does not reflect those who are discouraged and no longer seeking employment. The construction of new office space in the City's downtown area is an employment generator.

5. Recent cutbacks in Federal HUD programs have severely affected state and local governments' ability to provide housing affordable to low and moderate income households.

6. Proposition 13, which restricts the ability of local governments to raise revenue, and federal and state funding cutbacks have resulted in a further reduced ability to provide for and continue city programs for transportation, parking, open space and employment.

7. To make land available for the development of the Project will require the demolition of one vacant four-story building which currently occupies the site. The existing building on the project site is not rated in either the Foundation for San Francisco's Architectural Heritage Survey or in the Commission's list of Architecturally and/or Historically Significant Buildings. Neither the structure nor any portion of it is required to be preserved.

8. The Project, as indicated by the FEIR, will have a significant effect on the environment in that the Project will contribute to traffic increases downtown and cumulative increases in passenger loading on BART, MUNI, and other transit systems.

9. The Project itself would not have a significant impact on traffic circulation, transit ridership levels, air quality or on frequency of violations of air quality standards, nor will reasonably foreseeable cumulative development in the downtown area have a significant impact on air quality or result in significantly increased frequency of violations of air quality standards under the Bay Area Air Quality Plan. Moreover, the policies of the Transportation Element of the San Francisco Master Plan, as amended, to discourage use of private automobiles and to promote increased use of transit, and the transportation mitigation measures imposed as a condition of approval for this Project, will improve air quality.

10. It is the City's policy as expressed in the Transportation Element of the San Francisco Master Plan, as amended, that additional long-term parking should be located on the periphery of the downtown rather than within it. In conformance with this policy, no parking spaces are provided in the Project.

11. Mitigation measures set forth in the FEIR and agreed to by the project sponsor, or imposed by the Commission as conditions of approval of the Project, will substantially mitigate environmental and other impacts of the proposed Project, except as herein set forth.

12. The Project Sponsor has agreed to provide resources to mitigate Project-related impacts for transportation and housing, and to develop a project that will expand employment opportunities in San Francisco.

13. Conditions imposed by the Commission and agreed to by the project sponsor as specifically set forth in Exhibit A, attached hereto and incorporated herein by reference thereto as though fully set forth, will mitigate other impacts on the non-physical environment.

14. The housing demand created by this Project in San Francisco is mitigated by compliance with the housing mitigation measures required as conditions of approval as more particularly described in Exhibit A.

15. Pursuant to CEQA Section 21081(b) the Commission finds that it is without jurisdiction to require mitigation of impacts outside of San Francisco because it does not have any right or ability to impose land use controls, to provide for or to require public transit or to exercise regulatory functions in areas outside the City and County of San Francisco. Policies to encourage construction of additional housing can and should be adopted by affected city and county governments in the Bay Area.

16. Pursuant to CEQA Section 21081(c) the following Alternatives or Mitigation Measures to the Project described in the FEIR, which would reduce or avoid significant unmitigated impacts and which are not included as part of the Project, are either within the jurisdiction of another agency or are infeasible for the following reasons:

Project Alternatives

a. Alternative 1 is the "No Project Alternative." This Alternative is infeasible because (1) it conflicts with the objective stated in Section 210.3 of the City Planning Code that the C-3-G, Downtown General Commercial District serve as a citywide and regional center for a variety of uses, at a density level lower than that of the C-3-0 District; (2) it conflicts with Objective 6 of the Commerce and Industry Element of the San Francisco Master Plan to maintain San Francisco's position as a prime location for financial, administrative, corporate and professional activity; and (3) it would result in the failure to provide opportunities for approximately 560 additional permanent jobs and approximately 180 person-years of construction employment in San Francisco that would be created by the Project.

b. Alternative 2 is the Reduced Building Height Alternative. This alternative would be ten stories and approximately 140 feet in height. The building would be more rectangular in form than the proposed project. This alternative is infeasible because it would appear bulkier than the proposed project, would contain less visual interest, and would increase shadow impacts because there would be no setback at the upper floors.

c. Alternative 3 is the On-Site Housing Alternative. This alternative is infeasible because it would require an additional bank of elevators to serve the housing; would require separate plumbing and energy systems for office and housing uses; would require deeper excavation for residential parking spaces; and would increase costs while also reducing leasable space.

d. Alternative 4A is the Guiding Downtown Development--Office Use Alternative. Guiding Downtown Development is a staff study which presents a series of possible modifications to existing planning and zoning controls based on concepts developed by the Department of City Planning staff. The City Planning Commission has never conducted a public hearing for this study to determine the desirability of these various concepts, nor has it completed a full environmental evaluation of the impacts of the proposed controls or adopted the study. The study has, however, been discussed informally at various public hearings before the Commission to determine the desirability of the various concepts. In order to evaluate the merits of these potential controls, the Commission directed that an alternative incorporating the concepts of Guiding Downtown Development be included in each EIR on a project within the area covered by Guiding Downtown Development.

Based on such alternatives, and further staff consideration, Guiding Downtown Development was revised in July 1982 (as revised, Guiding Downtown Development is hereinafter called "GDD"), and will be revised again based on, among other things, information contained in future EIRs, further staff consideration and information contained in the Downtown Plan and the Final Downtown EIR. Where feasible and appropriate, Project sponsors have been encouraged to consider and incorporate concepts contained in GDD into project design.

The provisions of GDD are recommendations only. The Project incorporates several: Building setbacks beginning at a height of 85-feet minimize shadows cast by the project on Market Street and the United Nations Plaza; the project does not require the removal of an architecturally significant building; and retail convenience shopping would be included within the building's ground floor.

Alternative 4A is infeasible in the Project Sponosr's opinion because it does not provide for an optimum use of the site under existing controls and Project Sponsor states that he will not proceed with this alternative.

Alternative 4B is the Guiding Downtown Development--Mixed Use Alternative. This Alternative is infeasible for the reasons stated under Alternative 4A above.

17. The following benefits are generated by the Project:

a. Improvement of downtown land with a new office structure, consistent with the objectives of the Commerce and Industry Element of the Master Plan;

b. Creation of approximately 180 person-years of construction employment in a time of high unemployment, particularly in the construction trades, in the nation, region and City;

c. Accommodation of approximately 560 net additional permanent jobs in a time of high unemployment in the nation, region and City;

d. Making more efficient use of scarce downtown land resources to carry out the economic, fiscal and employment objectives in a manner consistent with San Francisco's Master Plan and Codes;

e. Creation of new housing opportunities through compliance with the housing mitigation requirement of 93 credits imposed as a condition of approval.

18. After balancing the unmitigated cumulative effects on the environment and the benefits of the Project, the benefits of the Project override the unmitigated cumulative effects on the environment.

DECISION

The Commission, after carefully balancing the competing public and private interests, hereby approves Building Permit Application No. 8200517 for a building at 1145 Market Street, subject to the conditions attached hereto as Exhibit A, which is incorporated herein by reference as though fully set forth.

ADOPTED: - CITY PLANNING COMMISSION - October 20, 1983

AYES: Commissioners Bierman, Karasick, Klein, Nakashima, Rosenblatt, Salazar, Wright

NOES: None

ABSENT: None

I hereby certify that the foregoing Motion was ADOPTED by the City Planning Commission.

Lee Woods, Jr.
Secretary

5823A/227

File No. 81.549ED
Motion No. 9837M
1145 Market Street

EXHIBIT A
CONDITIONS OF APPROVAL

A. GENERAL MITIGATION MEASURES

1. "Mitigation Measures To Be Included In The Project," as outlined in the Final Environmental Impact Report for 1145 Market Street, No. 81.549E, (the "FEIR"), shall be conditions of approval and are accepted by the Project Sponsor or its successor in interest. If said measures are less restrictive than the following conditions, the more restrictive and protective control, as determined by the Zoning Administrator, shall govern.

B. CONDITIONS TO BE MET PRIOR TO THE RELEASE OF THE FINAL ADDENDUM TO THE BUILDING PERMIT BY THE DEPARTMENT OF CITY PLANNING.

LAND USE DENSITY

1. This approval is for an office/retail building approximately 175 feet in height, (plus penthouse not to exceed 16 feet, 6 inches) containing 12 occupied floors, and consisting of approximately 137,000 gross square feet of office space, approximately 8,000 gross square feet of retail space, in a C-3-G, 240-G height and bulk district.

Design

1. The final plans shall meet the standards of the City Planning Code and be in general conformity with the design accepted by the City Planning Commission on October 20, 1983, and filed with the Department of City Planning as "EXHIBIT B, 1145 Market Street," said project being similar in scale and scope to that described in the FEIR, 81.549E October 20, 1983.

2. The Project architects shall continue to work with the Department of City Planning to reduce the building height by one story, and to further develop the design details. Final materials, glazing, color, pattern and depth of architectural and decorative detailing shall be reviewed and approved by the Department of City Planning. Sponsor and architect shall return to review detailed design development particularly the building top with Department staff prior to filing building permit addenda.

3. Reflective coated mirrored glass or deeply tinted glass shall not be permitted. Only clear glass shall be used at pedestrian levels. In no case shall glass used have a transparency factor of less than 50 percent.

4. The Project sponsor shall continue to work with staff on design and form modifications necessary to bring the design into general conformance with the design guidelines of the draft "Downtown Plan", particularly as it relates to the 90 foot high street wall requirement and the 25 foot set back requirement at the 90 foot height.

5. Project Sponsor shall contribute $15,000 (Fifteen Thousand Dollars) to expand seating capacity and/or public art in the Civic Center area, in consultation with the Department of City Planning and subject to the review and approval of appropriate public agencies.

Transportation

1. The Project Sponsor shall, in consultation with the Municipal Railway, install eyebolts or make provisions for direct attachment of eyebolts for Muni trolley wires on the proposed building wherever necessary or agree to waive the right to refuse the attachment of eyebolts to the proposed building if such attachment is done at City expense.

2. The Project Sponsor shall provide a minimum of five secure spaces for bicycles and/or mopeds within the project.

3. The placement of paving, landscaping or structures in the sidewalk area (subject to City approval) shall be done in such a way as to minimize interference with pedestrian traffic.

4. Subsurface sidewalk vaults are discouraged. Should they be needed, Project Sponsor shall design subsurface sidewalk vaults to allow for possible future widening of adjacent streets and vault design shall be of sufficient strength to carry maximum vehicular live and dynamic loads. Provision in the vault area for the placement of street trees shall also be made, subject to staff approval. In addition, should vaults exist or be installed as part of the Project, Project Sponsor shall accommodate and pay for the installation of all subsurface footings, supports and foundations as may be required for future public improvements such as street lights, street trees, trolley wire poles, signs, benches, transit shelters, etc. within project vault areas. Placement of such improvements is entirely within the discretion of the City.

5. Project Sponsor shall provide one on-site loading space. The loading space shall have ready access to the freight elevators, be clearly designated through approprite graphics, and be exclusively available for service vehicles, general parking being prohibited.

Energy

1. The Project Sponsor shall consider all appropriate energy conservation measures in building design and operations. Prior to issuance of the building permit, or structural addendum (as directed by the Department of City Planning) the Sponsor shall submit to that Department a report containing its assessment of the cost effectiveness of utilizing the various measures outlined in the following checklist including reasons for rejecting any of the measures. Measures to be considered shall include:

(1) Passive solar energy design measures;

(2) Maximum use of natural illumination (daylighting) through window design, light shelves, skylights, etc.;

(3) Other lighting reduction strategies, including high efficiency outdoor lights, low energy ballasts, task lighting, time switches on storerooms, occupancy sensors, etc.;

(4) Heat absorptive glass for all windows, except ground level;

(5) Alternates to air conditioning, including natural ventilation;

(6) Economizer cycles (which increases use of outside air) in HVAC systems;

(7) Computer monitoring systems for HVAC, lighting, etc.;

(8) Load shedding capacity;

(9) Heat recovery systems;

(10) Multiple metering of structure (ex. metering every floor);

(11) Operable and/or fixed shading on all south and west facing glazing.

Performance

1. The authorization and rights vested by virtue of this action shall be deemed void and cancelled, if within one year of this motion a site permit has not been secured by Project Sponsor or its successor in interest.

   This authorization may be extended at the direction of the Zoning Administrator only where the failure to issue a permit by the Bureau of Building Inspection to construct the proposed building is delayed by a City agency or by appeal of the issuance of such a permit. In no case shall the period for securing a site permit extend beyond two years of this motion without express authorization by the City Planning Commission.

2. Failure to comply with any of these conditions shall constitute a violation of the Planning Code, enforceable by the Zoning Administrator.

Recordation

1. Prior to the issuance of any building permit for the construction of the Project, the Zoning Administrator shall approve and order the recordation of a notice in the Official Records of the Recorder of the City and County of San Francisco, which notice shall state that construction of the Project has been authorized by and is subject to the conditions of this motion. From time to time after the recordation of such notice, at the request of the Project Sponsor or the successor thereto, the Zoning Administrator shall affirm in writing the extent to which the conditions of this motion have been satisfied.

C. CONDITIONS TO BE MET FOLLOWING APPROVAL OF BUILDING PERMITS WITH PERFORMANCE AS SPECIFIED.

Transportation

1. In recognition of the need for expanded transportation services to meet the peak demand generated by cumulative commercial development in the downtown area, the Project Sponsor shall contribute funds for maintaining and augmenting transportation service in an amount proportionate to the demand created by the Project as provided by Board of Supervisor's Ordinance No. 224-81.

   Should Ordinance No. 224-81 be declared invalid by the Courts, the Project Sponsor shall participate in any subsequent equivalent lawful mitigation measures to be adopted by the Commission or the City in lieu thereof, which measures will apply to all projects similarly situated.

2. Following building completion, the Project Sponsor shall, on an ongoing basis, retain a transporation broker responsible for coordinating, implementing and monitoring the programs among tenants and employees to encourage flex-time transit use and ridesharing, including but not limited to the following: On-site sale of BART tickets and Muni passes and employer subsidized transit passes, establishment of an employee carpool/vanpool system in cooperation with RIDES for Bay Area Commuters or other such enterprises.

3. Within a year after completion of the Project, the Project Sponsor shall conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation, trip distribution, and modal split pattern of Project occupants, and actual pick-up and drop-off areas for carpoolers and vanpoolers. The results of this survey shall be made available to the Department of City Planning. Alternatively, at the request of the Department of City Planning, the project sponsor shall provide an in lieu contribution not to exceed Six Thousand Eight Hundred Sixty Dollars ($6,860) for an overall survey of the downtown area to be conducted by the City.

4. Prior to the issuance by the City of a Temporary Certificate of Occupancy for the Project the Project sponsor shall, as required by the Department of City Planning: (i) participate with other project sponsors and/or the San Francisco Parking authority in undertaking studies of the feasibility of constructing parking facilities in approved locations to meet the unmet demand for both long and short term parking for trips generated by the Project which cannot reasonably be made by transit and (ii) participate with other project sponsors and/or the Municipal Railway in studies of the feasibility for the establishment of shuttle systems serving the Project site and parking facilities. In no event, however, shall the Project Sponsor be required to expend more than Three Thousand Four Hundred Thirty Dollars ($3,430) in connection with such studies.

When directed by the Department of City Planning, the project sponsor shall report to Department staff of progress being made in meeting this requirement, and shall continue to report on progress on a six month basis until a Temporary Certificate of Occupancy is issued by the City.

Housing

1. In order to help meet the housing demand generated by this Project, the Project Sponsor and/or successive project owners shall meet a housing requirement of 93 credits in a manner and within the time which complies with "The San Francisco Office/Housing Production Program (OHPP) Interim Guidelines for Administering the Housing Requirements Placed on New Office Developments" adopted by motion by the City Planning Commission on January 26, 1982, the provisions of which are incorporated herein by reference.

   Prior to the issuance of a Temporary Certificate of Occupancy for the Project, Project Sponsor and/or successive owners shall present plans and/or a program for meeting the housing mitigation. Construction and/or rehabilitation of required housing shall be completed within three years following issuance of a Temporary Certificate of Occupancy for the Project.

   Rehabilitation within the context of this condition means the return to the housing market of units that have been vacant for reasons other than making them eligible for satisfying this condition for at least one year as of the date of this motion.

   Project Sponsor shall report back to the City Planning Commission periodically at six month intervals on its efforts to construct or to rehabilitate units.

2. At Project Sponsor's option, the housing requirement may be met pursuant to any revisions in the OHPP Guidelines which may be subsequently adopted by the City Planning Commission or enacted by the City, prior to the issuance of a Temporary Certificate of Occupancy for this Project.

3. Should compliance with conditions one and two be unenforceable, Project Sponsor agrees to be bound by any legislation requiring or permitting the imposition of housing mitigation measures that may be adopted by the Board of Suprvisors and/or be enated by the State prior to the issuance by the City of a Temporary Certificate of Occupancy for the Project. In no case shall the number of units required be greater than the number required under OHPP Interim Guidelines.

Energy

1. One year after occupancy of the structure, actual energy consumption, converted to thousands of British Thermal Units, from Pacific Gas and Electric monthly billings, shall be reported to the Department of City Planning by the Project Sponsor. If consumption exceeds energy use projections contained in the Project FEIR, a P.G. & E. or other certified energy audit shall be performed at Sponsor's cost, and a copy supplied to the Department of City Planning. Those recommended energy conservation measures which have a 3-year or less payback shall be implemented by the Project Sponsor.

Employment

1. The Project Sponsor shall notify the City's Employment and Training System (CETS) at leat six months prior to project completion of prospective building tenants and job opportunities within the building, particularly entry level positions. This information will be used by CETS to design and structure job training programs and help direct those seeking employment to job opportunities.

Preservation/Archeology

1. Should evidence of historic or prehistoric artifacts be uncovered at the site during construction, the Project Sponsor shall be required to:

   (1) Ensure that the contractor notify the Environmental Review Officer and the President of the Landmarks Preservation Advisory Board;

   (2) Ensure that the contractor suspend construction in the area of the discovery for a maximum of four (4) weeks to permit review of the find and, if appropriate, retrieval of artifacts;

   (3) Pay for an archaeologist or historian acceptable to the Environmental Review Officer to assist in the review of the find and identify feasible measures, if any, to preserve or recover artifacts; and

   (4) Implement feasible mitigation measures which are identified, provided that the cost of implementation would not exceed one percent of total construction cost as indicated on the Building Permit application on file with the Department of Public Works.

Noise

1. Project Sponsor shall pre-auger holes for piles unless Project Sponsor can establish, to the satisfaction of the Department of City Planning, that such a procedure is unnecessary or undesirable.

APPENDIX G
COMPARISON OF CUMULATIVE IMPACTS: FINAL EIR AND SUPPLEMENTAL EIR

For convenience, this appendix provides, where possible, comparison of the results reached in the Supplemental EIRs with similar results reached in the Final EIR. Explanation is also provided where, due to changes in methodology and/or time frame, it is not possible to compare the results of the SEIR with those included in the FEIR.

Cumulative analysis in the project's Final EIR was based upon approximately 17.3 million square feet of net new office space under formal review, approved or under construction. Transportation impacts were assessed using Guidelines for Environmental Evaluation--Transportation Impacts, prepared by the San Francisco Department of City Planning, July 1980 (revised October 1980). Muni transit impacts were based on estimates of patronage and load factors most likely to occur in 1983.

The list-based cumulative analysis in this Supplemental EIR is based upon approximately 20.4 million square feet of net new downtown office space. This includes projects as of March 22, 1985 that are under formal review by the Department of City Planning, approved or under construction. The process used to develop the cumulative list and the list of projects appears in Appendix B, pages A-2 through A-13. This list contains the most recent cumulative development projections prepared by the Department.

The Downtown Plan EIR cumulative analysis is based upon projections of net new downtown office space and includes analysis of policies affecting the size, cost and location of new development in the context of underlying local and regional economic conditions influencing the demand for space. See pages 36 to 40 of this document for a comparison of the two cumulative analysis methodologies.

TRANSPORTATION

The transportation impact analysis is divided into five subsections: (1) Travel Demand; (2) Transit; (3) Pedestrian Movement; (4) Traffic; and (5) Parking.

1. Travel Demand

The travel demand information provided is an intermediate step in the cumulative transportation analysis and thus is not key to a comparison of the ultimate impacts disclosed to the Commission in the FEIR as compared to the SEIR. Comparable information is not found in the FEIR because the SEIR includes travel demand for the C-3 District, based on survey information obtained for that part of the Downtown in 1982, which was not available when the cumulative analysis was prepared for the FEIR in 1981-82. As there is no way to separate the travel from C-3 district projects on the FEIR cumulative list from the total cumulative travel assumed in the FEIR, no comparison of projected travel demand is included in this analysis.

Base data information is also provided on trip generation and modal splits applied to the project. However, this information is not comparable to the FEIR because the modal split used in the SEIR has been refined and improved to include more categories than were used in the FEIR. In addition, it was not possible to separate travel coming into the building from trips leaving the building in the method that was used to project travel for the FEIR; the SEIR covers outbound trips only, as those are the trips contributing to the cumulative p.m. peak transportation impacts.

2. Transit

This analysis addresses the impact the project will have upon local and regional transit agencies serving downtown San Francisco. The information provided addresses changes in level of service on transit carriers due to cumulative development.

The project's contribution to demand from cumulative development cannot be compared between the FEIR and SEIR. The FEIR provides information about the project demand on each transit carrier as a percent of the demand on each transit carrier generated by additional cumulative downtown development; in other words the project is described as an increment of the total increase in transit demand. In the SEIR, information is provided about the project demand on each transit carrier as a percent of the total demand on each transit carrier generated by total downtown development in the year 2000; in other words the project is described as an increment of the total transit demand generated by all downtown development, including all development existing in 1984 and all that projected

to be constructed between 1984 and 2000. The project's percent of the incremental increase between 1984 and 2000 could not be compared due to assumed changes in the transportation mode splits for workers in the existing developed space in downtown which affect the increment, such that it does not reflect the actual increased ridership due to new development. Thus, information directly comparable to the information provided in the FEIR for the project's contribution to cumulative increases in ridership is not available in the SEIR.

MUNI

No comparison with the FEIR is included here since the FEIR did not provide similar information for Muni corridors.

The FEIR discussion of the impacts on Muni levels of service was done on a line-by-line basis for downtown serving lines, a method which is no longer used and is not comparable to the data included in the SEIR. A corridor analysis method for assessment of impacts on Muni was adopted about one and one-half years ago after the decision was made to stop assigning transit trips arbitrarily to one bus line rather than another traveling in the same corridor (e.g., from downtown to the Richmond District) since it is known that travelers choose different lines daily for a variety of reasons and that Muni shifts facilities to accommodate changing demands in the main corridors. Survey and other data provide enough information to statistically support the assignment of riders by general area of residence (e.g., northeast or southwest areas of the City), but data do not support as precise an assignment as is implied when a line-by-line analysis method is used.

BART

For both Eastbay and Westbay lines, the SEIR analyses have projected equivalent or lower passengers-per-seat ratios as compared to the projections of future conditions contained in the project's FEIR.

The FEIR concluded that:

> "The proposed project would add 55 passengers (less than 0.3%) to the existing BART patronage and there would not be a measurable increase in these load factors." p. 34

Table 3 in the SEIR identifies a projected increase in BART ridership due to cumulative development ranging from 8,500 peak hour trips under the list-based analysis to 14,200 under the Downtown Plan EIR approach. Projected passengers-per-seat ratios (equal to load factors reported in the FEIR for BART) range from 1.07 on Westbay lines to 1.12 on lines bound for the Eastbay under the cumulative list approach, and from 1.06 on Westbay lines to 1.42 on Eastbay bound lines under the Downtown Plan EIR approach. Projected passengers-per-seat ratios under each approach take into consideration projected increased capacity.

AC TRANSIT

For AC Transit, the SEIR projected ridership increases ranging from 2,280 to 780 fewer trips than the FEIR.

The FEIR concluded that:

> "The proposed project and cumulative development would generate about 3,680 trips. exceeding the 3,500-person capacity reserve. AC Transit staff indicate that capacity will be increased about 10% (to about 13,500 passengers) over the next three to four years, which will raise the capacity reserve. The projected patronage, including patronage from cumulative development outlined in Table D-1, Appendix D, page A-94, of about 13,200 persons could be accommodated within the system capacity. Each bus would have an average of 15-20 standees." p. 35

Table 3 in the SEIR identifies a projected increase in ridership on AC Transit ranging from 1,400 under the Downtown Plan EIR approach to 2,700 under the cumulative list methodology. Ths would result in passengers-per-seat ratios of 1.08 under the Downtown Plan EIR approach and 1.16 under the cumulative list approach.

GOLDEN GATE TRANSIT

For Golden Gate Transit, the SEIR projected a lower impact than the FEIR. Due to planned capacity increases, in the SEIR passengers-per-seat ratios are not projected to exceed 1.00, as compared to the FEIR where it is projected that riders would exceed seated capacity.

The FEIR concluded that:

> "With a maximum capacity of 8,675 peak hour passengers, the effect of cumulative downtown development would be to raise patronage to about 8,600 passengers (99% of capacity). The proposed project would add 15 trips to the projected ridership (see Table 2, page 31)." p. 34

Table 3 in the SEIR identifies a projected peak hour ridership on Golden Gate Transit buses of from 6,800 under the cumulative list approach to 8,500 under the Downtown Plan EIR approach and corresponding passengers-per-seat ratios of 0.73 to 0.91 respectively. Under these analyses, it is projected that Golden Gate Transit would be able to meet the entire demand from cumulative development in downtown San Francisco.

CALTRAIN

Projections of impacts on the CalTrain lines are greater in the FEIR than in the SEIR. In both documents, the future ridership due to demand from cumulative downtown development could be accommodated within the projected available seated capacity of the system.

The FEIR concluded that:

> "The proposed project and cumulative development from the projects included in Table D-1, Appendix D, page A-94, would generate about 2,015 new peak-hour passengers which could be accommodated without exceeding peak-hour capacity." p. 35

Both methodologies presented in the SEIR project future excess capacity on CalTrain lines with passengers-per-seat ratios ranging from 0.61 under the cumulative list analysis to 0.79 under the Downtown Plan EIR methodology.

SAMTRANS

For SamTrans, the FEIR and the Downtown Plan EIR analysis in the SEIR both project ridership in excess of capacity, while the list-based analysis in the SEIR projects capacity in excess of ridershp demand.

The FEIR concluded that:

> "With a maximum capacity acceptable to the District of 125% of available seats, it is estimated that there is a reserve capacity for 300 passengers. The patronage from the proposed project and cumulative development (755 passengers) would exceed the available 300-passenger reserve capacity of SamTrans. The proposed project would add about five passengers of the trips generated by new development (see Table 2, page 31)." p. 36

Table 3 of the SEIR identifies passengers-per-seat ratios of 1.19 under the Downtown Plan EIR approach and 0.88 under the list-based analysis.

3. Pedestrian Movement

The projected pedestrian flows were not provided in the FEIR. However, the FEIR concluded that "the cumulative effect of other development would be a degradation from unimpeded to impeded pedestrian flows on Market Street sidewalk during peak hours." The SEIR (Table 4) projects an increase in pedestrian flow during the noon peak hour which is still within the "unimpeded" flow regime, but an increase in the p.m. peak-hour flow rate which would degrade the flow regime from "open" to "unimpeded" during that period (see Table G-1).

4. Traffic

a. Regional Freeway Analysis.

The SEIR (Table 5) provides information on the project's contribution to future demand on Regional Auto Corridors, a type of analysis which was not part of the methodology used in the transportation analysis included in the FEIR, and thus no comparison is possible.

b. Intersection Analysis (Table 6).

The analysis of impacts on intersections are not comparable because a different set of intersections were analyzed in the FEIR and the SEIR. The locations nearest the project were analyzed in the FEIR because they were expected to be the intersections with the highest concentration of project-related traffic. However, in many cases, those

TABLE G-1: PEAK PEDESTRIAN VOLUMES AND FLOW REGIMEN ON MARKET STREET

	Existing		2000			1984 + CUMULATIVE LIST			FEIR	
	p/f/m	Flow Regimen	p/f/m	Flow Regimen	Project Percent	p/f/m	Flow Regimen	Project Percent	p/f/m	Flow Regimen
NOON PEAK HOUR										
Market Street Sidewalk	0.7	Unimpeded	1.0	Unimpeded	11	1.06	Unimpeded	10	N/A	Impeded
P.M. PEAK HOUR										
Market Street Sidewalk	0.38	Open	.56	Unimpeded	14	.59	Unimpeded	14	N/A	Impeded

N/A - Not analyzed in the FEIR.

intersections fail to give a clear picture of the cumulative traffic impacts, while the intersections near freeway ramps are the sites of the highest concentration of cumulative p.m. peak traffic. Freeway-related intersections have thus been used in cumulative traffic analyses for San Francisco EIRs for several years. The freeway ramps most likely to include some measureable amount of project-related traffic were chosen for cumulative analysis in this Supplemental EIR.

3. Parking

The parking impact analysis in the FEIR and the SEIR are not comparable because the geographic area included as the basis for parking occupancy is different in the two documents. In the FEIR, the project parking demand was analyzed in relation to parking demand and supply within a 2,000 foot radius of the project site. In the SEIR, on the other hand, the project parking demand is analyzed in relation to parking supply and demand in the entire C-3 District.

AIR QUALITY

Air quality analyses in the FEIR and the SEIR addressed two issues: (1) projected daily pollutant emissions; and (2) projected worst-case curbside CO concentrations.

1. Daily Emissions

Because information in the SEIR on projected daily pollutant emissions was not provided in the FEIR, a comparison between the two is not possible.

2. Curbside Carbon Monoxide

Regarding carbon monoxide (CO), comparison is not possible due to the fact that locations measured in the SEIR were different compared to locations analyzed in the FEIR. In the FEIR, locations along Missions/8th and Market/8th Streets were measured for one- and eight-hour CO concentrations. In the SEIR, the intersections of 6th and Brannan, 5th and Bryant, and 8th and Bryant, all freeway ramp intersections, were measured for the same data.

HOUSING

Information in the SEIR (Table 9) on housing was not provided in the time of the FEIR and thus is not available for comparison purposes.

ENERGY

Information in the SEIR on energy was not provided at the time of the FEIR and thus is not available for comparison purposes.